DISSERTATION

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The Impact of the Information Revolution on Policymakers' Use of Intelligence Analysis

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Foreword

The original concept for this dissertation came out of a RAND report investigating future investment options for Air Force intelligence. Working with Dr. Myron Hura, who also is the chairman of the committee for this dissertation, I tried to answer the question of what Air Force leaders in the future would need from intelligence collectors and analysts. We discovered that it was highly likely that the proliferation of intelligence collection systems, coupled with the explosion in information coming from open sources, would make the military decisionmaker's job increasingly difficult over time. Decisionmakers in any situation, faced with a deluge of data and analysis, would be heavily challenged to make the most informed decisions without new kinds of decision aids. Consequently the Air Force needed to develop policies and technical solutions to make sure future leaders could operate in these environments.

From this work I started developing research questions that also drew on my own background as a former political/military analyst for the Central Intelligence Agency. If the explosion of classified and open source information would prove a challenge for the military where decisions were made by trained, professional military officers, what would the effect be on high level civilian policymakers who came from industry, academia, and a broad cross section of other occupations with varying specialties? Would they still need and/or want intelligence in the future, given the development of the Internet and other commercial and freely available high quality sources of information?

I asked these questions in 1998 and in 1999 and 2000 I collected data in interviews from senior level policymakers in the Clinton Administration. It is now the year 2004, the Bush Administration is campaigning for re-election, and while some changes have taken place since the early work on this dissertation was completed, much has not changed and there is still value in the data I collected, and the analysis that came from it.

The conclusion from this work is that the value of intelligence to policymakers varies depending on the issue on which the policymaker needs to be informed, the agency in which the policymaker works, and the personal style and preferences of the policymaker. Some agencies have better connectivity than others to the intelligence community, as well as to the Internet and other sources of information age open sources. This will have a profound effect on how policymakers in these agencies value intelligence analysis. Futhermore, the nature of an international event also has a strong effect. Events that are rapidly changing and where policymakers need updated information as events take place in real time do not play to the intelligence community's strengths, and will not unless change takes place. Finally, there are simply some areas of international relations, economic and trade issues for example, where policymakers seem to believe the intelligence community is not competitive with open sources of analysis. In these areas, policymakers are finding open sources of information such as the Internet and CNN to be extremely valuable and perhaps supplanting intelligence analysis which has traditionally supported policymakers in these areas.

Since I began work on this dissertation, some changes have taken place that on the margins affect my analysis. One of my key conclusions is that the State Department is badly disadvantaged because its access to information age open sources, particularly the Internet, did not exist. This fact, coupled with poor access to the intelligence community, put the State Department officials behind in any policy deliberation with officials from

other agencies. In fact, these conclusions were born out shortly after President George W. Bush was elected and nominated Colin Powell to be his Secretary of State. One of Secretary Powell's first actions as Secretary was to see to it that State officials were given Internet access.

While some of the conclusions reached in this dissertation may be somewhat overtaken by events, the work is still valuable. There are two issues that must be addressed. One is that some of the key issues affecting policymakers' ability to access information are starting to be addressed. This does not invalidate this work – in fact, it enhances its value in some ways since there is still much work to be done to ensure the intelligence and policy communities have the best tools and the best policies to see that policymakers have the best information available to formulate foreign policy. On a more important level, the events subsequent to the terrorist attacks of September 11, 2001, and the intelligence the Bush Administration used to base its decision to invade Iraq in 2003 have all affected the intelligence policy relationship. These are tremendous shocks to that dynamic which may have changed the environment that I analyzed. This leads to an important opening for further research, where the work done in this dissertation can serve as a baseline for comparison. For this reason alone, the others notwithstanding, this dissertation still has strong relevance.

CONTENTS

Chapter One – Introduction and Summary

Introduction

The goal of this dissertation is examine how the U.S. intelligence community can provide the best support to American policymakers. With the information revolution coming from the combination of rapid technological advances in both computing power and communications power, intelligence analysis may be far less relevant to policymakers today than it has been traditionally. Policymakers since the end of World War II have relied on intelligence when they needed information on foreign policy issues, but the explosion of available information today, much of if free or for sale with instant delivery on the World Wide Web (WWW), challenges the traditional role of intelligence in supporting the policymaking community.[1] The following two examples illustrate how the information revolution may be changing how intelligence supports policymakers.

U.S. policymakers in the 1950's and 1960's were desperate for information on the strength and composition of Soviet nuclear forces. Information coming out of the U.S.S.R. through open sources was scarce and too unreliable to make U.S. policymakers secure in their decisions on U.S. foreign policy. The intelligence community was also stymied in getting information it considered reliable. One of the most valuable forms of information (and most difficult to collect) was overhead photography of Soviet territory that provided images of Soviet long-range strategic bomber and ballistic missile bases. Such photographs could reveal military states of readiness and composition of forces. At that time, only the U.S. intelligence community developed a system that could take overhead photographs of Soviet military installations and deliver them to policymakers.

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[1] As will be more fully described later in this chapter, the term "policymaker" refers only to civilian, national level policymakers.

Figure 1-1, shown below, is an image taken in 1961 of a SS-7 missile base in the Soviet Union; one of the first Soviet ICBM complexes to be identified by the U.S. reconnaissance satellite, code-named CORONA. Satellite reconnaissance could image with impunity the entire landmass of the Soviet Union – a mission that by mid-1960 had proved beyond the capability of the most effective U.S. reconnaissance aircraft, the U-2, because of advances in Soviet air defenses. Reconnaissance satellites provided high quality images that helped American policymakers draw conclusions about the state of readiness of the Soviet ICBM force with a high degree of certainty; a degree of certainty that otherwise would have been impossible to have.

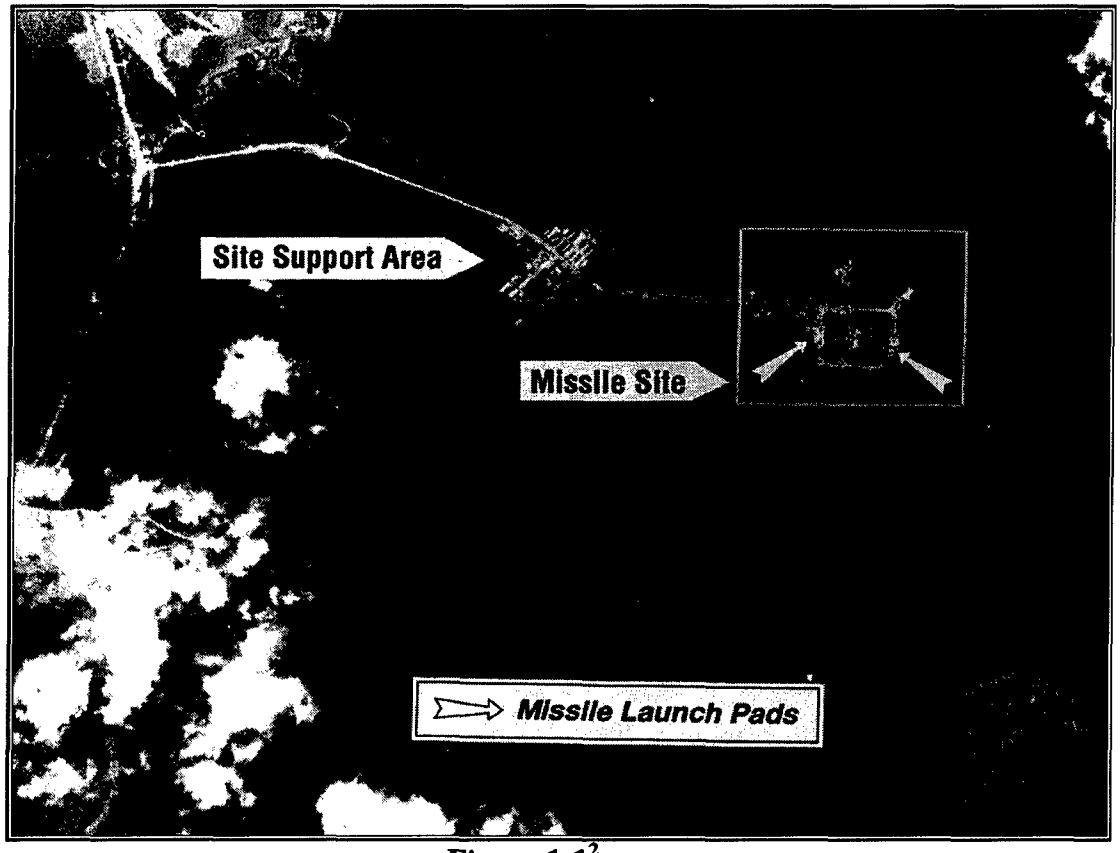

Figure 1-1[2]

[2] Image of site named Yurya taken from the Smithsonian National Air & Space Museum archives, and can also be found at http://www.nasm.edu/galleries/gal114/SpaceRace/sec400/sec440.htm.

The ability to develop sources and methods of information collection such as reconnaissance satellites - over which it had an exclusive monopoly - has traditionally given the intelligence community a dominant position in supporting policymakers with information. As a consequence, policymakers through the period coinciding with the Cold War grew convinced that intelligence was more valuable than open source information for the most pressing foreign policy issues (a point that will be elaborated in Chapter 2).[3] The following illustration shows how the context in which policymakers rely on intelligence analysis may be changing, however.

Figure 1-2, shown below, is an image taken in 1999 of a North Korean test site for its *Taepo Dong* ballistic missile. While this is the sort of image that for decades could only have come from the intelligence community, this image was taken by a commercial imaging satellite IKONOS, owned and operated by the firm Space Imaging, and paid for and published by *Aviation Week and Space Technology* magazine. The image was posted on the WWW, as was the accompanying drawing, shown in figure 1-3 that was created by artists using detailed analysis of many images of the North Korean missile launch site. This is the sort of high quality, high value information that today is easily available to any policymaker. However, the availability of this sort of information may be creating changes for how policymakers rely on analysis from the intelligence community.

The development of commercial imaging satellites is but one of many sophisticated methods of information collection over which official U.S. government agencies had a monopoly, but which is now available publicly and commercially. The Internet allows

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[3] There have always been areas of foreign policy where intelligence did not excell – such as economic issues – but until recently, these have never been consiered the most pressing issues of the day.

almost anyone to access and instantly transmit this information globally – perhaps with greater speed than the U.S. intelligence community – from anywhere in the world.

Figure 1-2[4]

[4] "Commercial Images Detail North Korean Missile Site," Joseph C. Anselmo, *Aviation Week & Space Technology,* January 17, 2000 (image can also be found at www.fas.organization/nuke/guide/dprk/facility/awst-korea.htm).

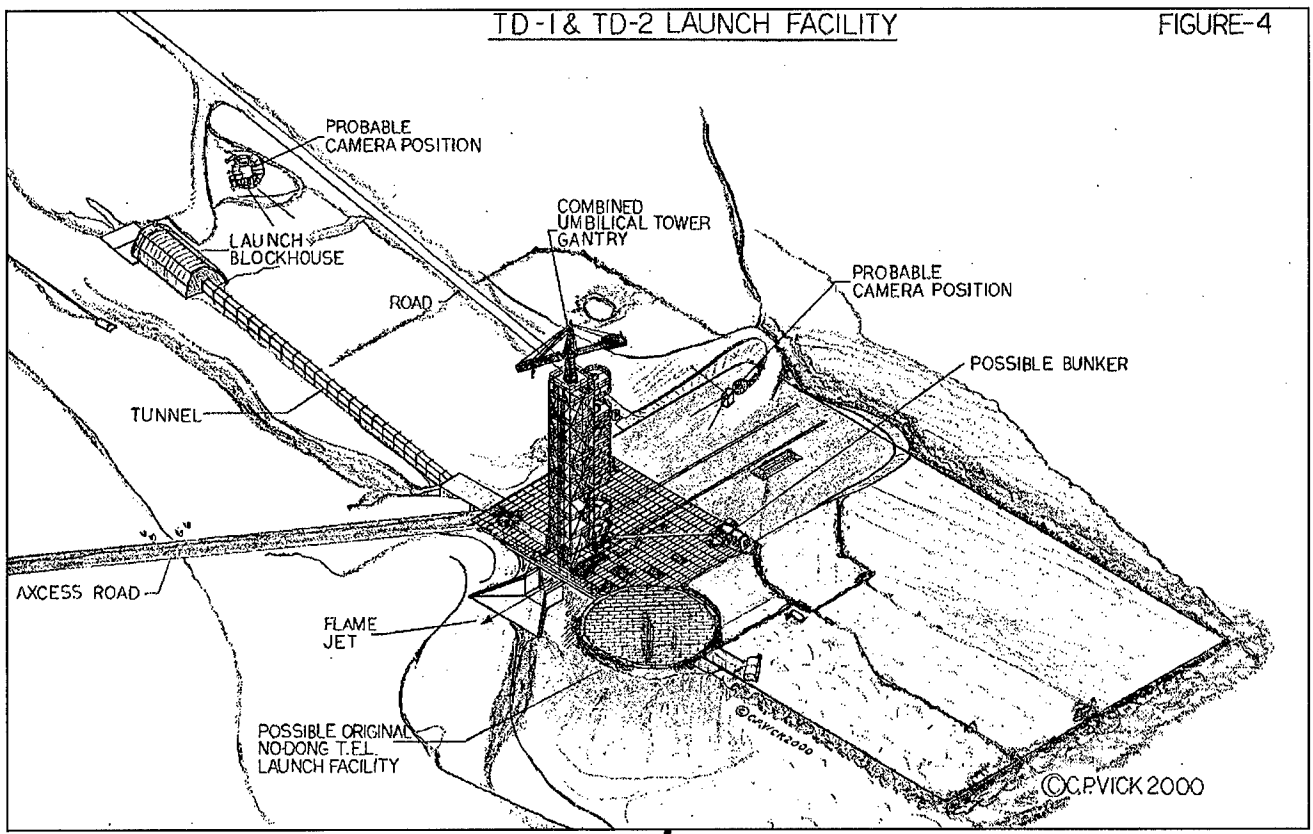

Figure 1-3[5]

What has made this sort of commercial, openly available information more attractive to policymakers is the change that the information revolution has created in the policymaking environment. With the explosion of the amount of available information and the increasingly rapid pace of global events, policymakers must make decisions in much shorter time cycles than ever before. This puts pressure on them to act and react far faster than they would have had to prior to the current information age. They must be more active in seeking out the best information among the vast and diverse sources arrayed before them – information that is packaged and disseminated in new and innovative ways. All the while, policymakers have to fight information overload and ask only the most important

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[5] Imagery analysis and interpretation done by the Federation of American Scientists. Drawing can be found at http://www.fas.org/nuke/guide/dprk/facility/nodong-3.htm.

and direct questions that will get them the best information in the shortest period of time. These developments may be changing the nature of the policy community and the mindsets of policymakers, and are certainly changing the base of information providers who compete for policymakers' attention. As a consequence, U.S. policymakers might now be relying on non-intelligence sources for the analysis they need to make decisions, making intelligence agencies far less relevant to policymakers today than at any point over the last half-century.

Research Questions and Hypotheses

This dissertation will compare how policymakers have traditionally used intelligence with how they are using it today, examining the effects that new technology and open sources of information are having on how the policy community uses intelligence. The comparison will be examined along the following lines.

- Availability of information
- Competition among providers of information.
- Presentation form and style.
- Methods of dissemination
- Nature of policymakers.
- Mindsets and cognitive and institutional biases.

This dissertation will use these lines of analysis to shape its investigation of the following research questions.

Research Question #1: ***How have foreign policy agencies, offices, and departments of the U.S. Federal Government adopted modern technology to access information?***

Research Question #2: ***How has the U.S. intelligence community adopted information age technology to compete with new, open source competitors?***

Research Question #3: ***How is the information revolution affecting the intelligence community's ability to support policymakers with data and analysis? Is the intelligence community being crowded out of its role in supporting policymakers by other sources of information?***

Hypotheses

A RAND report by Kevin O'Connell, Robert H. Anderson, Anthony C. Hearn, and Richard O. Hundley titled *The Impact Of The Information Revolution On The Intelligence Business*, written in 1995, makes the following predictions about how the intelligence community will serve decisionmakers in the face of increased competition from outside sources of information.

1) The intelligence community will be increasingly challenged by competitors who have access to faster, cheaper, and increasingly sophisticated data sources and methods of transmission.

2) The flood of information will open up opportunities for the intelligence community to perform new services for existing intelligence consumers, and increase the utility of intelligence for decisionmakers who are not traditional consumers.[6]

These assertions are based on the following assumptions.

1) The intelligence community will adopt advances in information technology and change the traditional methods of producing and disseminating finished intelligence analysis.

2) The intelligence community can change its production cycles to respond to increased competition, either by shortening production times in some circumstances, or simply by ensuring that information is disseminated in sync with the policymaking process; neither too early nor too late to be of use to decisionmakers.

3) The intelligence community will take advantage of new opportunities to support decisionmakers who in the past did not take advantage of support from the intelligence community.

4) Policymakers with access to information age technology and open-

[6] Kevin O'Connell, Robert H. Anderson, Anthony C. Hearn, and Richard O. Hundley, *The Impact Of The Information Revolution On The Intelligence Business* PM-421-CRCIC, May 1995, pp 1-4.

source and commercial data and analysis do not already get most, if not all, of their information from non-intelligence community sources.

If the predictions from the RAND study are correct, changes should already be taking place in the relationship between the intelligence and policymaker communities. The diagram below (figure 5) illustrates the potential outcomes if both, either, or neither communities adapt to emerging information environments.

Intelligence Community

Policy Community	Change	No Change
Change	Rand predictions are true – IC relevance increases	Potential decrease in relevance for intelligence community
No Change	Policymakers ignoring new, valuable sources of intelligence	Status Quo – Policymakers increasingly at disadvantage in world dominated by information.

Figure 5-5

If both the intelligence and policy communities have already adapted to the information revolution, the future relationship between the two will be similar to the RAND predictions, but this must be tested. However, if either the policy or intelligence communities begin taking advantage of the information revolution without a corresponding change in the other, the future for the relationship becomes uncertain. Gaps might form in the supply and demand of intelligence that would open the potential for decisionmakers to shift reliance to other sources of information: a development of extreme relevance for the intelligence community. Alternatively, decisionmakers might be ignoring valuable new

sources of information and acting in an information vacuum, or solely on information delivered in traditional ways: an outcome that puts policymakers at a disadvantage in the modern world. The next chapter examines both the intelligence and policy communities to test what has been the impact of the information revolution on how the intelligence community serves policymakers.

These questions lead to the following hypotheses for this dissertation.

1. ***The intelligence community has not adapted information revolution technology in disseminating intelligence.***

2. ***The policymaking community's information needs have compelled a shift towards information from commercial and web-based, open sources of information.***

3. ***As a consequence, the intelligence community is becoming less relevant in supporting the foreign policymaking process and needs to better adapt to the information age.***

Study Approach

This dissertation will mainly use a case study approach to examine these hypotheses, comparing cases of how policymakers traditionally used intelligence with case studies of how U.S. officials use intelligence today. The first step involves examining three foreign policy cases from the late 1950's and early 1960'to establish how the traditional intelligence-policy relationship evolved. This analysis will establish how policymakers historically valued intelligence to support the decisionmaking process. The second step is to describe three modern foreign policy cases and examine the differences of how policymakers' use of intelligence to support the policymaking process has changed. By comparing the historic case studies to the modern ones, this dissertation will aim to make recommendations on how the intelligence community today can best improve its support to the policymaking process.

Conclusions

There are several conclusions that come out of the analysis of these hypotheses. The intelligence community has tried to adapt to the information revolution with the adoption of a network named Intelink, but the intelligence community has not fully supported this network as a means for disseminating intelligence to policymakers, nor have policymakers adopted it. Policymakers have started to make use of some information age sources of information, particularly the combination of television and the Cable News Network (CNN), but the Internet and web-based sources of analysis have not become major contributors to the policymaking process. On the other hand, some policymakers find traditional sources of information such as the telephone far more useful than intelligence analysis for getting information. Overall policymakers still find intelligence analysis useful for supporting the policymaking process, especially when it conveyed through a one-on-one intelligence briefing, but for situations that require the most timely information, policymakers often rely on the telephone to call someone for information, and more and more are relying on CNN.

Detailed Dissertation Roadmap

Chapter Two examines the traditional role of intelligence in supporting policymakers, reviewing the literature of how decisionmakers need and use information to support national-level decisionmaking. The writings of current and former senior policymakers explain how policymakers need information to make decisions, as well as the role of the intelligence community in supporting the policymaking process.

Chapter Three examines three historical cases as the basis for comparison to how policymakers use intelligence today. These three cases:

1. The Bomber Gap;
2. The Missile Gap;
3. The Cuban Missile Crisis;

are presented as examples of the most pressing foreign policy events of their day. To make the best decisions, policymakers needed information about the strength of Soviet strategic nuclear forces. The research shows policymakers were inundated with analysis from numerous sources and that the availability of information was widespread. Competition among providers of information, from press sources to research institutions like RAND to intelligence agencies was fierce. Information was presented solely in either the written or spoken word and disseminated in traditional ways – in person, in a document, or broadcast over television or radio.

Because of these features of the environment, policymakers came to rely on analysis from the intelligence community because intelligence agencies had access to more reliable and credible sources and methods of collection than any other entity or organization. This reliance developed into cognitive and institutional biases that to some extent last to the present day.

Each case was researched using primary source documents from the intelligence community – recently declassified intelligence reports and National Intelligence Estimates – as well as primary and secondary historical sources, and original press accounts from the period of each case. From these events, policymakers came to the view that the intelligence community was the most useful source when they needed information on foreign events. These will be co0pared in later chapters to three modern cases to analyze how the information revolution may have changed policymakers use of intelligence analysis. The information revolution has not yet been defined however.

Dissertation Overview: A Comparison of how policymakers traditionally used intelligence vs., how they use it in the information age.

1. Theory of how policymakers need and use information.
2. Case studies of how policymakers traditionally rely on intelligence.
3. Shock to this relationship – the Information Revolution.
4. Testing the hypotheses
   a. Examination of intelligence community
   b. Examining the policy community:
      i. Organizational level
      ii. Individual level

Figure 1-5

Chapter Four reviews the information revolution, describing its nature and explaining how it serves as an outside shock to the traditional intelligence/ policy relationship that could change how policymakers use intelligence today. This shock may be affecting the environment in which intelligence agencies support policymakers.

Chapter Four starts the analysis of these changes through an analysis of the intelligence and policy communities. Of the intelligence community, this chapter examines the intelligence community's information age tool for dissemination – a classified network named Intelink. Researching Intelink involved interviews with numerous primary sources – medium and high-level users of Intelink in both the intelligence and policy communities -- as well as senior government officials involved with its development, implementation, and day-to-day operations. Where there were holes in the data from these sources, the Intelink book *Top Secret Intranet*, authored by one of the system's designers, filled in the gaps.

The final section of this chapter examines the infrastructures of policymaking organizations, looking at the infrastructures of these organizations that deliver information to policymakers. The aim of this examination is to understand how policy agencies are enabling policymakers to access all forms of information, including intelligence and open source analysis. This part of Chapter Four was compiled from primary source writings of

noted experts in the field, as well as field interviews with policymakers from selected agencies.

Chapter Five completes the analysis of how the information revolution is affecting policymakers' use of intelligence by examining how government officials today use intelligence relative to other sources of information. This will be described in contrast to how policymakers in the three case studies from history relied on intelligence. The analysis of this chapter is derived from the results of testing this dissertation's three hypotheses, trying to determine if open source, information age sources of analysis today are really crowding out intelligence from supporting individual policymakers. The following three modern foreign policy cases were selected.

- The 1998 Indian nuclear test
- The 1998 Serb crackdown on Kosovo and subsequent U.S. response
- The 1999 WTO Ministerial in Seattle, Washington

Policymakers involved with these three cases were selected using the process of snowball sampling, which relies on establishing contact with a first respondent who then refers the investigator to other suitable respondents. These individuals supplied data that expressed their preferences for information sources during the foreign policy event in which they were involved. The analysis of this data, using the Analytic Hierarchy Process – a tool for experts to accurately rank their preferences over large sets of options – revealed the policymakers' preference for intelligence and non-intelligence sources of information.

Chapter Six encapsulates the body of this work and makes conclusions about what can be learned from this research. Specifically, there are recommendations for the policy and intelligence communities that would help both to ensure that decisionmakers get the best information to make the most informed decisions.

Definitions

But before this dissertation can proceed into the body of research, it must first establish certain definitions of terms that will be used throughout, and which can be taken to have different meanings depending on context.

Information

David Ronfeldt in *Cyberocracy, Cyberspace, and Cyberology: Political Effects of the Information Revolution* writes that the term "information" does not have a single definition but instead encompasses a spectrum of terms, arranged hierarchically from data at the bottom, to analysis in the middle, to knowledge at the top.[7] In this dissertation information will be a catch phrase that includes all the subordinate kinds of information from any individual datum to any single piece of wisdom. Putting this definition into an intelligence perspective; the transcript of an intercepted telephone communication or an image taken from an observation airplane, unmanned aircraft, or earth-orbiting satellite would constitute data. Analysis of data puts it in context of other available data, identifies its meaning and significance, and also explains its relevance to the decisionmaker. Only after analysis is consumed – i.e.; read, considered, evaluated – can any decisionmaker develop knowledge about an issue or event and then act on it. All data, analysis, and knowledge are part of the hierarchy of information.[8]

Intelligence

The questions about the definition of terms such as "intelligence" and "policymaker" need to be resolved before any further discussion can take place about the role of intelligence supporting policymakers and the foreign policymaking process. The Council on Foreign Relations handbook *Making Intelligence Smarter: The Future of U.S.*

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[7] David Ronfeldt in Cyberocracy, Cyberspace, and Cyberology: Political Effects of the Information Revolution, pg . 3.

Intelligence, defines intelligence as "data that is not publicly available, or analysis based at least in part on such data, that has been prepared for policymakers or other actors inside government. What makes it unique is that intelligence is based in part on some information that has been collected secretly using government sources and methods of information collection." This is the definition that this study will follow. While it true that any information from any source could accurately be called "intelligence," in this dissertation, the term "intelligence" will specifically refer to this kind of information that exclusively comes from government agencies, and is based on data that is collected by clandestine sources and methods. However, even limiting the term intelligence to these parameters is still too large in scope.

Parameters for Definition of "Intelligence"

- **Comes from clandestine government sources only**
- **Only intelligence which supports national level policymakers will be considered**

Figure 1-6

In his report to the 1996 National Performance Review, then-Director of Central Intelligence John Deutch stated "The United States intelligence effort shall provide ... [decisionmakers] with the necessary information on which to base decisions concerning the conduct and development of foreign defense, economic policy, and the protection of United States national interests from foreign security threats. Specifically, the missions of U.S. intelligence are to:

- Provide intelligence support to national level policymakers,
- Provide intelligence support to military planning and operations,
- Provide intelligence support to law enforcement, and
- Counter foreign intelligence activities.

For the purposes of managing the scope of this research effort, this dissertation is

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[8] The Office of the Director of Central Intelligence, *A Consumer's Guide to Intelligence.*

only considering Deutch's first mission of providing intelligence support to national level policymakers. When this dissertation discusses intelligence, it will be confined to that arena, and that arena only. This is not to prioritize one mission or set of consumers of intelligence over any others – in fact intelligence that supports the military is a far larger enterprise for the intelligence community than that of supporting national level policymakers – but it is the only area on which this area focuses.

Chapter Two – The Theory and Practice of How Policymakers Use Information

Summary

To set up the examination of the impact of the information revolution on policymakers' use of intelligence analysis, it is imperative to first describe the theory of how policymakers use information to make policy decisions, and use that theory as a foundation for comparing how policymakers historically have used intelligence with how they use intelligence analysis today. This examination will serve as the foundation for later chapters that test how the relationship between policymakers and the intelligence community may be changing because of the information revolution.

Policymakers need information to make decisions and traditionally have relied heavily on the intelligence community for that information. This chapter will create a theoretical framework for the shape of the intelligence/ policymaker relationship by describing why policymakers need information, as well as their cognitive biases towards gathering information. This theoretical framework will help explain how the relationship between policymaker and the intelligence community works in practice. This framework also sets the stage for Chapter Four to explain how the coming of the information revolution may be changing this whole relationship.

The Theory of Using Information in Policymaking

Policymakers and Information Processing

Policymakers' strive to make the best decisions possible and seek information in the time allowed that matches their own personal style and preferences.[9]

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[9] The term "best" is meant here to be ambiguous as each policymaker has different criteria for what makes any piece of information more valuable. There is a discussion in later chapters of ten specific attributes of information that any decisionmaker would value differently, but would determine what would make information or an information source the "best" for that individual. "Style" here is meant to describe how a policymaker uses information and will be further explained in this chapter.

The Need for Information

Alexander George in *Presidential Decisionmaking in Foreign Policy: The Effective Use of Information and Advice* asserts that to formulate optimum policies in any given circumstance, decisionmakers formulate questions, and then seek out information sources that will get them info information that allows them to make what he terms "*high quality decisions.*" Such decisions are where "[decisionmakers] correctly weigh the national interest in a particular situation and chooses a policy or an option that is most likely to achieve the national interest at an acceptable cost and risk."[10]

Decisionmakers "must struggle with the difficult task of attempting to harmonize [their] search for high-quality decisions with two other requirements" which are:

1. the need to achieve sufficient consensus in support of [their] own policies and decisions..." and, more importantly,
2. "the need to work within the constraints of time and ... available policymaking resources."

This struggle is depicted below in figure 3-1.[11]

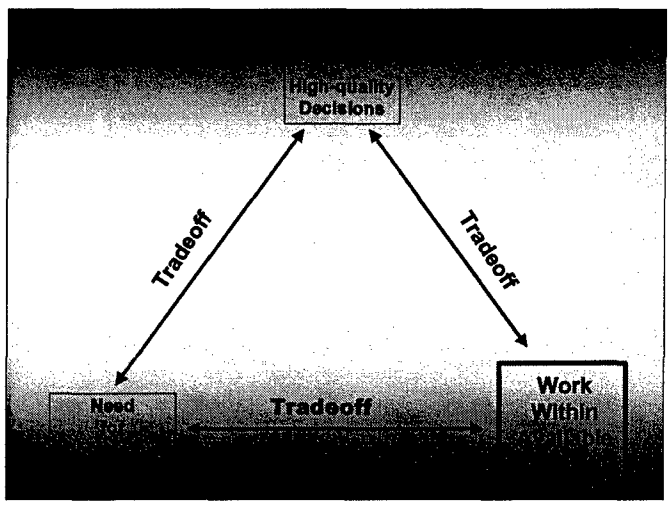

Figure 2-1[12]

[10] Alexander L. George, Presidential Decisionmaking in Foreign Policy: The Effective Use of Information and Advice (Westview Press, Boulder, Colo, 1980), pg. 2, (italicized emphasis mine).
[11] Ibid, pp. 5-10.

George stresses that the most important requirement for making high-quality decisions is ensuring that policymakers ask the proper questions to find sufficient information about the situation at hand. This information should always be adequately analyzed to provide policymakers with an "incisive and valid diagnosis" of the policy problem and policy options that are their main concern.[13]

Policymakers' Personal Style

In trying to make high quality decisions each decisionmaker will find and process information based on his or her personal style and preferences. Information can come to a policymaker "pushed" from the producer, or "pulled" by the policymaker in response to his or her request. The form and substance of the information will strongly depend on how the policymakers' request the information, the questions they ask of the information supplier, and the mindset of the individual. Of key importance for this study is the availability of information sources, which dictate what information will be available. This is the key focus of later chapters.

In operating based on information the collect, "decisionmakers can vary widely – some decisionmakers may be more comfortable operating with highly abstracted data while others might prefer to operate on unfiltered data to make decisions and provide direction to subordinates." At different levels of decisionmaking, policymakers may operate effectively with more or less data abstraction because "of their inherent intellectual and data processing capabilities."[14] All decisionmakers usually have to rely on some level of information filtering to be effective "because without some data abstraction or tailoring,

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[12] Ibid, pg. 10.
[13] Ibid, pg. 10.
[14] Myron Hura, Gary McLeod, Richard Mesic, et al., *Information For the Warfighter: Integrating C2 and ISR*, RAND publication DB-267-AF, pp 6-8.

[decisionmakers] would be overloaded with information." Typically, senior decisionmakers search for higher levels of abstraction than those at junior levels because senior officials have far greater areas of responsibility.[15]

Of course, policymakers' personal style and individual preferences figure heavily into how they seek out and use information, but styles can be complex and variable, and difficult to identify in any one individual. By looking at three different strains – designated here as "type I, type II, and type III – it is possible to describe how some policymakers seek out and filter information. Type I decisionmakers might be the kind who seek out and solicit all-source information, but place selective filters on incoming information to prevent information overload. This type is likely to ask suppliers a wide range of questions to cover every aspect of a topic.

Type II decisionmakers make decisions in a "black box," using very tight filters on incoming information, ignoring most of it, and basing their decisions more on instinct and past experience than new information. This type of policymaker is unlikely to ask questions to information suppliers, but is more likely to rely heavily on a support staff for that function to collect necessary information and prepare policy options. Type III decisionmakers seek out as much information as possible, immersing themselves in data and analysis to be as best informed as possible before making a decision.

Type I –Gather information from many sources but use tight filters to manage it.
Type II –Block most incoming information and make decisions based on experience and instinct.
Type III – Immerse themselves

Figure 2-2

All three types of decisionmaker should

[15] Ibid, pp 6-8.

further be distinguished by their personal attributes, which again will influence the ways they seek information in terms of sources and the questions they might want answered, but will also affect how they use the information. Three simple distinctions will be used here to illustrate. Some decisionmakers are rational or irrational in their decisionmaking. They can be quick, intuitive learners or they can be slow learners who have to work harder to grasp new concepts or environments. Finally, decisionmakers can vary in whether they are deliberate or are more volatile in making decisions. The type of decisionmaking style and personal attributes of any decisionmaker can be mapped on one another creating a number of different combinations as shown below in Figure 2-3.

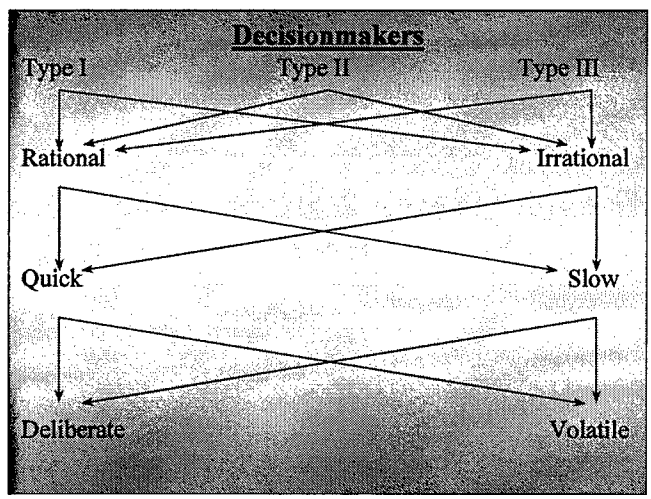

Figure 2-3

From three identifiable types and just three different examples of differing style, there are 24 different combinations that could be created to describe different policymakers. Any policymaker, independent of how he or she seeks out and filters information, could be rational or irrational, quick or slow, and deliberate or volatile in their decisionmaking. It is the task of information suppliers to provide for the information needs of all these different types of information consumers.

How Policymakers Use Information in Practice

While policymakers in theory want all the available information to support decisiomaking according to their diverse styles and preferences, no matter what style or cognitive biases the policymaker carries, in practice they very often simply do not have the time to personally collect and assimilate all the data and analysis they need. Consequently, they are forced to make decisions under some degree of uncertainty. Making important decisions in the face of uncertainty creates stress for policymakers – stress they try to reduce by searching for the best outside information sources in their limited time. Traditionally they believed the most valuable source of that information has been from the intelligence community as will be shown in the following chapter.

Time Constraints and Acting Under Uncertainty

Policymakers' ability to gather and consume information varies depending on their time constraints. Policymaking involves several stages and policymakers' interest in gathering information typically waxes and wanes throughout the process – mostly because the competing policy issues of the day all demand attention and no policymaker can devote all available time to one issue (unless he or she is responding to a crisis).[16] Obtaining the "best available" information is also often constrained by monetary cost, or the limits of available time for the policymaker or his or her staff, or some agency or organization to collect, process, analyze, and then ultimately disseminate the information, (although in some cases information may arrive at a policymaker's desk having skipped one or more of these steps).[17]

At the initial stage of the policymaking process, the most prominent issue of the day

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[16] Roger Hilsman, *Strategic Intelligence and National Decisions,*(The Free Press, United States of America, 1956), pp 143-147.
[17] George, pp 5-10.

will dominate over background or more peripheral issues. Policymakers will usually ignore any data and analysis on a peripheral issue since it distracts from the issues that are of much greater, current concern. As some action-forcing event brings a pressing issue to the forefront, the policymaker will need to focus on the matter at hand and require outside data and analysis to stimulate ideas on how to respond.[18]

All successful policymakers recognize it in their self-interest to obtain as much information support as possible. Former Assistant Secretary of State for Far Eastern Affairs Roger Hilsman refers to "the linking of knowledge with action" when describing how successful policymakers use the best information to make the best policy.[19]

The paradox is that many policymakers need the best available information but rarely have sufficient time to gather or make use of that information. "The officials who carry most of the day-to-day burden of policymaking on key issues are so besieged by time-consuming responsibilities that decisions on how much to stay informed ... are narrowly based on self interest in managing pressure and getting the [immediate] job done."[20] Time constraints often force policymakers to "concentrate what little time they have for foreign policy analysis on narrowly focused aspects of key agenda issues – often how to deal effectively with their foreign counterparts" or their counterparts in other agencies of the U.S. government.[21] Consequently there is never enough time to be well-informed so "the essential challenge for policy officials is to make sound decisions amidst

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[18] L. Keith Gardiner, *Studies in Intelligence*, 1989, Volume 33, Number 2, "Dealing with Intelligence-Policy Disconnects," (Central Intelligence Agency, McLean, VA).
[19] Hilsman, pg. 143.
[20] Jack Davis, Interview with Ambassador Robert Blackwill, *Studies in Intelligence*, 1995, Volume 38, Number 5, "A Policymaker's Perspective on Intelligence Analysis," (Central Intelligence Agency, McLean, VA)
[21] Jack Davis, *Studies in Intelligence*, 1996, Volume 39, Number 5, "The Challenge of Managing Uncertainty:Paul Wolfowitz on Intelligence Policy-Relations," (Central Intelligence Agency, McLean, VA).

inherent uncertainty.[22]

Finding the time and internal resources to stay informed and mitigate uncertainty remains a constant dilemma in policymaking. Complex policy issues are often hard to grasp within any context, especially when the policymaker has insufficient time to gather and analyze information to calculate the potential outcomes of various options. Faced with insufficient or incomplete information, decisionmakers can often find it difficult to define a set of policy options that safeguards all their values and interests. Therefore they are forced to make hard, stressful choices among their values and priorities.[23]

The Importance of Outside Information Sources

To counter this stress, policymakers be able to judge which are the most important outside sources of information, and which need to be ignored. It is not easy – most policymakers will not have time to ponder or consider any of the information they receive and often will have to accept it on face value – only adding to their stress level.[24] A successful policymaker will be able to determine reliable sources which can deliver data and analysis tailored to his or her needs, and which can respond to the pressures under which the policymaker operates.[25] Those policymakers who can effectively access valuable information have tremendous advantages in mitigating uncertainty.[26]

The policymaker's most important determinant for success is how he or she chooses these sources of information. The domestic and international environment in any given policymaking situation shapes decisionmakers' information needs and consequently the

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[22] Davis, Wolfowitz interview.
[23] George, pg. 18.
[24] Davis, Wolfowitz interview.
[25] Joseph Nye, Testimony before a hearing of the Commission on the Roles and Capabilities of the U.S. Intelligence Community, Friday, January 19, 1996.
[26] Davis, Wolfowitz interview.

information sources they access, as shown below in figure 3.[27] Decisionmakers use of information is determined by two criteria:

1. The effect of the global environment; and
2. Their relationship with the intelligence community and all other sources of information.

The global environment is where real-life events take place. Policymakers must deal with the issues in the global environment and make decisions in areas as far ranging as international economic meetings, ethnic conflicts, and developing-nations testing nuclear weapons.

As explained earlier, policymakers strive to reduce uncertainty by relying on information from any of a number of sources. The region designated "All Information" in Figure 3 represents the total sum of information on any topic. This sum of all information can be broken down into the following components:

1. information reported on by the intelligence community;
2. information reported on by all other sources;
3. information that is unknown.

The intelligence community and other available sources of information try to provide as much information as possible, eroding that region of all information which remains "unknown." The relative value of intelligence compared to all other sources depends on the degree to which it can shrink that unknown region and reduce a policymaker's uncertainty.

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[27] Myron Hura, Gary McLseod, Richard Mesic, et al., *Information For the Warfighter: Integrating C2 and ISR*, RAND publication DB-267-AF, pp 6-8.

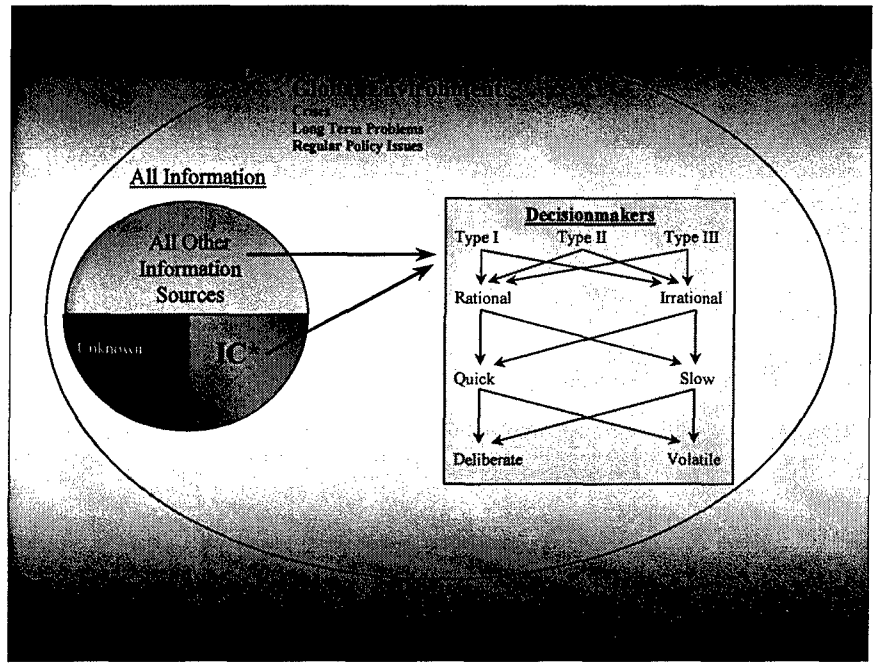

Figure 2-4

Policymakers who do not actively seek out and find the best information to support their decisionmaking processes do so at their own peril. Decisionmakers who ignore or reject information from outside sources, or cannot determine which sources are the most helpful are forced to deal with greater uncertainty. Consequently they are faced with greater stress and often employ a variety of psychological devices to reduce or avoid the malaise coming from having to make decisions with serious national security implications in the face of incomplete information and inadequate knowledge.

"Defensive avoidance" is a term coined by Alexander George describing the practice of escaping from the tension of making hard choices by shutting oneself off to the full consequences of the choice to be made. Procrastination is a particular from of this practice. "Bolstering" is a form of defensive avoidance where the decisionmaker unconsciously "increase[s] the attractiveness of one option ... and [does] the opposite for competing options." The problem with bolstering is that it "can result in distortion of

information-processing and option appraisal." This is particularly likely when the decisionmaker either rushes his choice for political reasons or is forced to make a decision because of external constraints and deadlines. Rushing a policymaking decision means "foregoing the possibility of using remaining time to obtain still additional information and advice."[28]

Besides using defensive avoidance, policymakers can use a variety of "cognitive aids" such as heavy reliance on ideologies or historical analogies to help them make decisions in the face of issues clouded by uncertainty. However, "there is a danger that an executive will resort prematurely to one of his [or her] favorite aids to reach a decision or *rely too heavily* on it.... The result may well be to cut oneself off from the possibility of benefiting from a broader or in-depth analysis of the problem that advisers or the organizational information-processing system can provide."[29] Moreover, "information processing for policymakers can be seriously impaired by the strong tendency displayed by individuals (and organizations as well) to see only what they expect or want to see ... and the tendency to assimilate incoming information to one's images, hypotheses, and theories.... Distorted information processing of this kind can contribute to a justified lowering of one's guard ... [or] to an unjustified and costly raising of one's guard."[30]

The Role of Intelligence

Policymakers who constructively use information to the best of their ability always try to obtain as much information as possible to support their decisionmaking process, and traditionally have used the intelligence community as their most valued source. History

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[28] George, pg. 19.
[29] Ibid, pg. 19.
[30] Ibid, pg. 20-21.

has shown that policymakers to succeed "need support from intelligence."[31] For many policymakers, "if intelligence analysts do not do the work of keeping up with developments overseas that the decisionmakers need to know about, [the analysis] does not get done." It has always been in the self-interest of policymakers to seek out the relevant intelligence analyst who supports them, informs them, and helps them keep up with a broad range of developments they could not possibly follow on their own.[32]

Intelligence Perspective of Supporting Policymakers

In theory the intelligence community exists to enable policymakers to transfer part of the stress and malaise of dealing with uncertainty to those with professional training and expertise in collecting and analyzing information. In reality the relationship is far more complex. Each side often shows little understanding of the other's capabilities, responsibilities, and pressures. Former Director of Central Intelligence Robert Gates writes that the intelligence business is a "black art" for most policymakers, "neither adequately understood nor adequately exploited." On the opposite side, intelligence officers are often also equally unfamiliar with how a senior policymaker might use the intelligence they produce and disseminate.[33]

There are four major types of intelligence products, each of which has very different utilities to the policymaker. The CIA's *A Consumer's Guide to Intelligence* breaks down the intelligence community's products into the following categories.

- **Current Intelligence** - addresses day-to-day events, apprising policymakers of new global developments, and includes intelligence products such as *The President's Daily Brief* (PDB), *Military Intelligence Digest* (MID), and the *National*

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[31] Davis, Wolfowitz interview.
[32] Nye testimony.
[33] Robert M. Gates, "An Opportunity Unfulfilled: The Use and Perceptions of Intelligence the White House," *The Washington Quarterly*, (Washington, D.C. Winter 1989) pg. 36.

Intelligence Daily (NID).[34]

- **Estimative Intelligence** - deals with global estimates of "what might be" or "what might happen." The goal for this form is to try and fill in gaps for policymakers between available facts and hard analysis by suggesting alternative patterns into which the facts might fit. This type is most widely embodied in the *National Intelligence Estimates* which are periodic intelligence community-wide publications that conduct long-term assessments of regional areas and topical issues of national security importance.

- **Warning Intelligence** exists to sound an alarm or give notice to policymakers of impending threats and other significant events that affect the U.S. national interest. There are numerous real-time messaging systems within the intelligence community for transmitting information between agencies and to the relevant policymakers.

- **Research Intelligence** generally consists of medium to long-term intelligence research on key foreign countries and what the intelligence community refers to as "transnational issues" such as terrorism, proliferation of weapons of mass destruction, and world economic trends. This type of intelligence is disseminated to policymakers in official, ad hoc production forms such as the CIA's Special Intelligence Reports, Intelligence Memoranda, and Intelligence Reports.[35]

Of these, the most common is current intelligence, but to the extent they read intelligence at all, most policymakers spend very little time reading current intelligence since it is not usually tailored to policymakers' specific needs.[36] The *President's Daily Brief* (PDB) is a daily serial publication that serves as an exception largely because it is written for a small group – perhaps a dozen senior policymakers – and that group includes the President of the United States. The *PDB*'s daily content is supplemented with an average of 5 personalized memoranda that respond to the previous day's briefing or to any other request for analysis. The PDB can also respond to policymakers' requests with raw

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[34] The *National Intelligence Daily* has been renamed since the election of President George W. Bush, but the source will still be referred to here as the *NID* since that was the name of the source when this data was collected.
[35] The Office of the Director of Central Intelligence, *A Consumer's Guide to Intelligence,* Published by the Central Intelligence Agency and available for purchase by written request using document #PB99-928006 from NTIS, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161, or can be ordered electronically at http://www.ntis.gov/.
[36] Davis, Blackwill interview.

intelligence reports that have not yet been analyzed.[37]

Other types of current intelligence can be delivered in direct response to policymakers' requests and tailored as best as possible to their needs. Any intelligence can be delivered in written or oral form, or as a combination of the two styles in an annotated briefing. As long as the intelligence is delivered in a timely fashion, relative to the policymaker's needs, this form of intelligence is usually well received and useful to the policymaker, but there are exceptions.[38]

Policymakers, as described above, rely on information to mitigate uncertainty, and many rely on data and analysis from the intelligence community for that support, but this reliance can create friction with several basic cultural pillars of the intelligence community. The problem lies with the term *support* which "for policymakers means a shared and active interest and, if necessary, advocacy [of a policy] ... which runs counter to the intelligence community's long standing position not to advocate any policy."[39] The intelligence community strongly holds that taking an advocacy role will destroy the perceived reputation of objectivity, which is vital to preserving its credibility as an information support body.[40]

A problem arises when policymakers see intelligence analysis as simply another resource they can use either to help decide how to advance a goal or help fend off bureaucratic attacks from those who seek to thwart their policies. Policymakers' attitudes toward intelligence are therefore shaped by the degree to which it will enable them to

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[37] John E. McLaughlin, *Defense Intelligence Journal,* Volume 6, Number 2, Fall 1997, "New Challenges and Priorities for Analysis."
[38] CIA, *Consumer's Guide.*
[39] Mark Lowenthal, *Studies in Intelligence*, 1992, Volume 36, Number 2, "Tribal Tongues:Intelligence Consumers, Intelligence Producers," (Central Intelligence Agency, McLean, VA).
[40] John Deutch, Direction of Central Intelligence, speech to the World Affairs Council, "The Future of U.S. Intelligence," 7/11/95.

increase their influence within and without their own government. For a policymaker, "the [intelligence] analyst whose product casts any doubt on the probable success of the policy becomes a member of the enemy camp."[41]

Conclusions

This chapter defines the theory and practice of how policymakers use information. Policymakers need information to mitigate uncertainty and stress when making key policy decisions. The personal style and attributes of policymakers vary considerably, but all need varying support to make decisions. The problem for policymakers is balancing daily pressures of their jobs with finding time to stay informed. The best solution is to find trusted, reliable information sources who can offer the best support. Traditionally for policymakers that source has been the intelligence community.

The next chapter uses three foreign policy cases to highlight how the intelligence community has historically supported policymakers, and how the policymaking community has used intelligence. Each case identifies decisionmakers who needed intelligence to mitigate great uncertainty about the strength of Soviet strategic nuclear forces, and points out policymakers who in the absence of good information used different sources of information to push their agendas. Each case validates that intelligence in the pre-information age was the pre-eminent source of information for policymakers. This serves as a foundation against which to compare how intelligence serves policymakers today in the information age.

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[41] L. Keith Gardiner, *Studies in Intelligence*, 1989, Volume 33, Number 2, "Dealing with Intelligence-Policy Disconnects," (Central Intelligence Agency, McLean, VA).

Chapter Three – Historical Examples of Policymakers' Use of Intelligence

Summary

This chapter will illustrate how policymakers used information in the following three cases from history.

- The "Bomber Gap" of 1954 – 1956;
- The "Missile Gap" of 1957 – 1960;
- The Cuban Missile Crisis (1962).

These will serve as a foundation against which to evaluate how policymakers use intelligence today in the information age.

The previous chapter explained how policymakers need information to make decisions in the face of uncertainty and stress. To be successful, a policymaker must be able to determine which sources of information are most helpful and which are not. Following this line of analysis, the case studies in this chapter will show that policymakers prior to the information revolution chose to rely on intelligence analysis more than any other sources to alleviate uncertainty about the most pressing foreign policy issues of the time.

In these case studies, policymakers were under tremendous stress to formulate U.S. defense policy in the face of great uncertainty about the true military strength of Soviet Union. Unlike today, analysis in these cases was far less varied and dynamic in form and presentation. In the first two cases, there was a high availability of information and great competition between information providers – both within the government and without. In the third case – the Cuban Missile Crisis – intelligence was the only source of information on the Soviet missiles in Cuba. For all three, the presentation form and style for information on these events was limited to the written word published on paper and

disseminated by hand, or the spoken word disseminated in person in the form of an intelligence briefing, via the telephone, or on televised broadcast.

In each case, the intelligence community distinguished itself from all other sources of information – not because of any advantage in presentation, style, method of dissemination, or availability – but because it was able to develop unique sources and methods of information collection and analysis. These secret sources captured information available to no other sources. This information was of such high quality that far more than any other source, it was able of alleviate policymakers' stress of making decisions in the face of great uncertainty.

The most senior policymakers, those with access to the best intelligence, developed a trust and confidence in the intelligence community because it was able to gather information from unique and fantastic sources such as the U-2 reconnaissance plane, the first reconnaissance satellite CORONA, and a Soviet GRU colonel named Oleg Penkovskiy who spied for the U.S. This trust created mindsets and institutional biases over time where policymakers valued intelligence analysis so highly that the intelligence community earned a reputation as having the most valuable information for policymakers.

This chapter makes this argument to compare it with how policymakers might be using intelligence today. If intelligence traditionally was more valuable to policymakers because of the advantage it had collecting information, this advantage may be slipping away. First off, open sources of information have narrowed the lead the intelligence community traditionally held in intelligence collection, where commercial firms now sell satellite imagery openly over the Internet, for example. Additionally, global news organizations now report global events live, keeping policymakers informed in ways the

intelligence community cannot. Secondly, as international events, action and counter-action, take place in ever shorter time cycles because of the proliferation of global information, the intelligence community today may simply not be responsive enough to serve policymakers needs. These are issues that will be explored in Chapters Four and Five.

In this chapter, each of these cases describes the historic way policy officials used information in the critical foreign policy issue of their time – the questions of the military strength and intentions of the Soviet Union.[42] This study neither asserts these were the only important foreign policy issues of this time period, nor that the intelligence community was absolutely the best source of information on every aspect of foreign policy of the day. What *is* certain is that the intelligence community, prior to the information revolution, was able to answer policymakers' questions in ways no other information source could using unique sources and methods of information collection and analysis.

The Bomber Gap

American policymakers between the years 1953 and 1957 based defense decisions on the false analysis that the U.S.S.R. was approaching parity and even surpassing the U.S. in the production of intercontinental, strategic bombers. Policymakers by 1957 reversed course, however, solely because of intelligence collected by a unique intelligence collection system – the U-2 reconnaissance plane.

The Bomber Gap "Opens"

The notion of a bomber gap was born in 1953 when an American military attaché in

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[42] It cannot be overlooked that these cases are also well-documented with volumes of intelligence declassified for each. The availability of good intelligence data made it possible to compare the availability of open source information to the best intelligence of the time. It must also be noted, however, that this reliance on the U.S. intelligence community for primary data on its performance introduces the possibility of bias in that the government is more likely to declassify information on cases where it did a particularly good job.

the Soviet Union sighted a new Soviet intercontinental bomber at an airfield just outside of Moscow. This new bomber – the first long range Soviet bomber to be powered by jet engines instead of turboprops –was known as the Myasishchev-4 which NATO later designated the "BISON" (see photos in Appendix A).[43] The notion of the "bomber gap" took further root in 1954 when *Aviation Week* magazine reported the U.S.S.R. – completely to the surprise of the U.S. – unveiled the Ilyushin 38 and the Tupolev 200; two long-range, heavy bomber prototypes.[44] The IL-38 was described as comparable in size to the U.S. B-52 bomber (see photos in Appendix A), while the TU-200 was seen as comparable to the U.S. B-36, but alleged to be "far more modern." Both bombers were assumed to have intercontinental range.[45]

The U.S. at the time had been slowly rolling out initial production models of the long range B-52 intercontinental bomber. It was unclear if production would be adequate to safeguard the continental U.S. since American intelligence was unsure of the Soviet capability to mass produce its new prototype long-range bombers in comparable numbers.[46]

The Soviet disclosure that it had developed prototypes of two intercontinental strategic bombers comparable to the B-36 and the state-of-the-art B-52 for the first time raised the possibility that the Soviet Union could reach strategic nuclear parity with the U.S. The Soviets only six months earlier had tested their first nuclear fusion warhead, also to the surprise of the U.S., and the demonstration of two new aircraft with intercontinental

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[43] Center For the Study of Intelligence History Staff, *The CIA and the U-2 Program, 1943-1974*, Central Intelligence Agency, 1998, pg. 20.
[44] The photos of the planes were revealed directly to editors of *Aviation Week* magazine, who in turn gave the photos to U.S.A.F. intelligence personnel for evaluation.
[45] In fact, it turns out that *Aviation Week* was in error publishing the names of the two planes. The plane they named the IL 38 was in reality an MY-4 BISON. The Russians never developed a "Tupolev 200" bomber, and the picture published in *Aviation Week* was actually of a TU-4 "BULL" bomber.
[46] "Pictures Reveal Reds' New 'Sunday Punch," *Aviation Week*, February 15, 1954, pg. 12.

range created American fears that the U.S.S.R. was challenging the U.S. and American nuclear superiority.[47] The fact that both developments came within 6 months of each other, and both came as complete surprises, only compounded American fears.

That the U.S.S.R.'s strategic capabilities were concealed from outside observation was part of Soviet design. Since the end of WWII, the Soviet Union had effectively curtained off the entire Soviet Bloc from the outside world, allowing the U.S.S.R. to carry out its military planning, production, and deployment activities with the utmost secrecy. American intelligence, as well as every other reputable information organization at the time, had been unable to effectively crack the veil of secrecy.[48]

The sudden realization that the United States homeland might be vulnerable to nuclear attack touched off new fears for American policymakers. Immediately after photos of the Soviet aircraft were printed in *Aviation Week* magazine, former Secretary of the Air Force Senator Stuart Symington on the floor of the U.S. Senate accused the Eisenhower administration of "continuing to underestimate Russia's capability to deliver atomic air attacks on United States." He asserted the Soviets were speeding ahead with mass production of intercontinental bombers and accused the U.S. of only slowly proceeding with B-52 production and development of the newer, supersonic B-58 Hustler.[49]

Symington's argument was backed up by analysis from multiple sources. A 1954 RAND study predicted that the U.S.S.R. by 1962 would have 500 long-range bombers. This would translate into a predicted 500% increase between 1958 and 1962 – compared to

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[47] *For The President's Eyes Only*, Christopher Andrew, pp 219-222.
[48] *The CIA and the U-2 Program*, pg. 2-3.
[49] "Congress Gets Red Plane Facts," *Aviation Week*, February 22, 1954, pg. 13.

the U.S. that would have only 345 long-range bombers.[50] *Aviation Week* proclaimed that "the new [Soviet] turboprop bomber similar to the [U.S.] Convair B-36 (see photos in Appendix A) is already in production service and another swept wing turboprop bomber is in production.... [Soviet] long range bomber production is swinging into high gear."[51] Within the U.S. it appeared the race was on for superiority in strategic bombers.

Ironically, the Eisenhower Administration at the time had been cutting defense spending as part of its "New Look" defense program. While the Air Force received $22.1 billion in 1953 for new spending, the budget was cut roughly in half in 1954 to $11.4 billion, with the Administration requesting a further, more modest decline to $11.2 billion in 1955.[52] The shock that the Soviets seemed to be developing a modern, long-range heavy bomber force flew headlong into Eisenhower's plans for further reducing the defense budget.

The national reaction was strong against the Administration's plans for defense cuts. Against the Administration's wishes, the U.S. Air Force in 1954 publicly announced it would accelerate its development program for the new B-58 Hustler (see photos in Appendix A) strategic bomber to respond to the Soviet advances.[53] Former Air Force Secretary Thomas Finletter in October, 1954, became one of the first informed experts to sound the cry of alarm at the believed growth of Soviet airpower with his pronouncement that "a thermonuclear Pearl Harbor in which Russia 'can destroy in a single sneak blow the

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[50] Rough Comparison of SAC and the Soviet Bomber Force in the Period January 1958 to January 1962, J.E. Lipp, RAND Report 2305-PR, 9 July 1954, pg. 4.
[51] "Reds Put Muscle on Strategic Air Arm," *Aviation Week*, March 15, 954, pg. 90.
[52] "U.S.A.F. Airpower Funding Request Declining," *Aviation Week*, January 25, 1954, pg. 14.
[53] "AF Speeds B-58 Develpoment Program," *Aviation Week*, May 24, 1954, pg. 13.

cities and industry of the United States' will be possible by 1956."[54] Editorials in *Aviation Week* echoed the warning claiming "the apparent failure of Americans to realize even part of the significance of the hydrogen bomb, and of Russia's possession of it, has been a baffling phenomenon. The menace of Russia to this country simply has not been grasped in any degree by America." The magazine urged that the U.S. was in need of an "atomic air striking force ... [with] more and better planes ... so that we may be sure to win this race for quality – all at the level of excellence we call overwhelming."[55]

American fears were not unfounded. By all accounts – and without good information to the contrary – it appeared to American strategists that the U.S.S.R. was suddenly engaged in a crash program to develop nuclear weapons as well as a fleet of intercontinental bombers to deliver those weapons to American soil. The Soviet Air Force until then had been mostly dedicated and developed for short-range, tactical missions and not long-range, strategic bombing. The U.S.S.R. had never developed a long-range, heavy bomber before or during WW II, focusing instead on fighter planes and light and medium bombers.[56] Moreover, there had been no available evidence in the early 1950's (either to any open- or classified sources of information) that the Soviets were engaged in any long-range bomber program until they started demonstrating prototypes and alleged production models.

Post-War U.S. Intelligence Efforts Against The U.S.S.R.

The closed Soviet society presented post-WW II America with intelligence challenges that initially could not be overcome. President Harry Truman signed into law

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[54] "Sneak Attack: Finletter says one Red strike can destroy U.S.; Former AF Secretary urges realistic planning," *Aviation Week, October 11, 1954, pg. 16.*

[55] "Arming for Keeps," editorial, Aviation Week, October 11, 1954, pg. 114.

[56] It is important to remember that the Russian people during World Wars I & II fought most of their battles against enemies on Russian

the National Security Act of 1947 creating the CIA largely to counter the new post-WWII threat of the Soviet Union.[57] The primary mission of the CIA was to uncover or collect data on the U.S.S.R. and analyze that data to provide insights to U.S. policymakers.[58] The CIA's earliest successful intelligence collection method in the late 1940's was to exploit captured German WWII maps, photos, and documents that the Nazis created to prepare for Hitler's invasion of Russia. By the early 1950's this data was rapidly becoming outdated and CIA shifted its collection activities to interrogate released German WWII prisoners of war who were just starting to return from Soviet captivity.[59] This information made up almost all of the U.S. intelligence on the U.S.S.R. since CIA had little or no success establishing any other kinds of intelligence collection networks inside Soviet territory. In fact, through 1954 "the CIA had no significant agent networks on Soviet soil."[60]

The fragmentary nature of U.S. intelligence on the U.S.S.R., coupled with American policymakers' frantic need for information on this new potential adversary, led the U.S. to attempt the first aerial photography of the U.S.S.R. with modified U.S. Air Force B-29 and B-47 bombers, reconfigured as RB-29 and RB-47 reconnaissance planes, respectively (see photos in Appendix A). This effort failed to provide any sort of intelligence boon. Even the most successful penetration of Soviet airspace carried out by an R-47 only penetrated the fringes of the U.S.S.R. – 450 miles into Soviet airspace – before turning for home. The U.S. intelligence picture turned even more grim by 1950 as the U.S.S.R. firmed up its air defense network and began shooting down the intruding U.S.

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soil, making long-range bombers unnecessary.

[57] Many argue that Truman created the CIA as a direct reaction to the Japanese sneak attack on Pearl Harbor. At the end of World War II the most likely source of sneak attack was from the U.S.S.R.

[58] *In From the Cold*, Allan E. Goodman, Gregory F. Treverton, Phillip Zelikow, pg. 137.

[59] *The CIA and the U-2 Program, 1943-1974*, pg. 3.

reconnaissance planes. The U.S. continued its reconnaissance flights over the Soviet Union through 1955, but the losses of planes and men continued, and the aircraft never penetrated deep enough into Soviet airspace to return any intelligence that was very useful.[61]

In the meantime, U.S. planners were making decisions based on analysis that was not supported by hard data. The U.S. Air Force in 1954 without good supporting data supplied RAND analysts with estimates the U.S.S.R. would build 500 long-range bombers by 1962. RAND used the Air Force estimates in its analysis even though it was assumed the figures were flawed. A 1954 RAND report cautioned "[Soviet] inventory figures for January '58 are based on Air Defense Command estimates.... The rapid growth ... [of "Soviet] heavy and medium bombers by '62 is an intelligence estimate which probably should be taken with a grain of salt."[62] Unfortunately, in the absence of any better analysis, the Air Force estimates were equal to the best intelligence available.

The lack of U.S. intelligence on the U.S.S.R. explains why the Soviets' deliberate disclosure of the existence of the BISON bomber in 1954 – an aircraft capable of attacking American homeland targets with nuclear weapons – came as a complete surprise to the U.S. This was a surprise which would be repeated several more times in the 1950's as the Soviets continued to project the image of a nation pushing an ambitious crash program to develop long-range bombers.[63]

The Bomber Gap "Widens": The Moscow Air Shows

The perception of the bomber gap was cemented by two distinct events. The first was a Soviet deception effort during a 1955 May Day Soviet military demonstration. Since

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[60] *For the President's Eyes Only*, Christopher Andrew, pg. 212.
[61] *The CIA and the U-2 Program, 1943-1974*, pp 3-4.
[62] *Rough Comparison of SAC and the Soviet Bomber Force in the Period January 1958 to January 1962*, J.E. Lipp, RAND Report 2305-PR, 9 July 1954, pg. 4.

unveiling the prototype the Soviets had only produced ten of the BISON bombers – a secret unknown to the West – but flew all ten of those bombers around the airshow reviewing stand several times in different formations to give the impression that there were at least twenty, and possibly as many as thirty operational bombers.[64] CIA analysts as well as the media and other non-government experts believed, given standard operating procedures and serviceability rates, that the Soviets must have had between forty and sixty operational bombers in their fleet in order to have flown between twenty and thirty of the aircraft.[65] The possibility that the Soviets were capable of producing between forty and sixty operational long range bombers in one year since demonstrating the prototype quickly set off fears that the U.S.S.R. had the capability to overtake the U.S.

To put the series of events in perspective, the U.S. in November 1951 rolled out the first experimental B-52 but did not complete the first operational aircraft until almost three years later in August 1954. Prime contractor Boeing completed the first 28 operational B-52's in approximately one year after completing the first operational aircraft. The U.S. production capacity of twenty-eight B-52's per year was far below the inferred production rate of the U.S.S.R. of between forty and sixty MY-4's per year.[66]

In the aftermath of the May, 1955 Moscow airshow, *Aviation Week's* lead story titled "Russian Jet Airpower Gains Fast on U.S." opened with the analysis that "Russia is winning its technology race with the U.S. to develop superior airpower.... The Red Air Force has made such rapid progress in design and production of long-range jet bombers

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[63] Intentions and Capabilities:Estimates on Soviet Strategic Forces, 1950-1983, Central Intelligence Agency History Staff, pg. 6.
[64] *U.S. Intellience and the Soviet Strategic Threat* (2nd edition), Lawrence Freedman, (Princeton, NJ: Princeton University Press, 1986), p 65-67.
[65] Central Intelligence Agency History Staff, *Estimates,* pg. 5.
[66] "Heavy Bomber Chronology," *Aviation Week,* May 23, 1955, pg. 13.

that it shocked even the top level and most knowledgeable military aviation leaders in the Pentagon...." One clear conclusion was "the rapid acceleration rate of aeronautical progress indicates the vast effort ... the Russians have been pouring into their military aviation program since 1946 has reached the payoff stage." As a consequence, "the current momentum of the Soviet technology drive has virtually wiped out the once-wide margin of technological superiority once enjoyed by the United States Air Force."[67]

At this point lacking any credible contrary analysis, American decisionmakers in Congress, the Air Force, and in the Eisenhower Administration, spurred a supplemental increase in B-52 production in the 1955 budget of 35 percent. They claimed the increase came from a shared feeling in the Congress and the Administration that "we simply can't afford to take second place in any of the race to develop the most effective delivery system for nuclear weapons." The effect of this decision was to increase the spending on B-52's by $300 million (in 1955 dollars) and increase the number of B-52's on order to a total of 500 – 200 more than the 300 previously requested.[68] As *Aviation Week* described this turn of events, "from a complacent attitude of 'all's well' and 'no changes are necessary' this administration has switched to public admission that the Russian threat is real and that it requires positive action to accelerating production of key U.S. aircraft such as the ... B-52."[69]

Only one month later the Soviets in July, 1955 released the next major shock of the bomber gap, unveiling three new, long-range TU-95 "BEAR" bombers at the Tushino Airshow outside of Moscow (see photos in Appendix A). The existence of these bombers

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[67] "Russian Jet Airpower Gains Fast on U.S." *Aviation Week,* May 23, 1955, pg. 12.
[68] "U.S.A.F. Recognizes Red Gains, Spurs B-52" *Aviation Week,* June 6, 1955, pg. 12.

again caught the U.S. intelligence community, as well as other open source organizations, by surprise. The BEARs appeared to be in series production as well, convincing more U.S. decisionmakers that the U.S.S.R. was engaged in a crash program to build long-range bombers designed to attack the U.S.[70] Certainly the U.S. Air Force was convinced of Soviet superiority at the time, with key Air Force leaders claiming "Soviet Russia not only is making scientific and technological advances at a faster rate than the U.S., she also is beating us at our own game – production."[71]

By February of 1956 the U.S. Air Force Chief of Staff General Nathan Twining was warning Congress of Soviet superiority in several areas of airpower. Twining at that time warned that the U.S.S.R. had already surpassed the U.S. in numerical superiority and was now surpassing the U.S. in quality of airpower as well. He claimed that the threat of Soviet superiority meant that the U.S. needed to further increase spending or face the reality of a real threat of Soviet attack against the U.S.[72]

One consequence of this bomber gap testimony was a Congressional initiative to begin a broad inquiry to evaluate the nation's airpower, led by then-Senator Lyndon B. Johnson.[73] Of greater significance was the enormous increase in the Administration's request for funding for the U.S. Air Force, jumping from actual expenditures in 1955 of $2.5 billion for aircraft, engines, and parts to a request of $6.3 billion in 1956.[74] Furthermore, an *Aviation Week* article titled "General LeMay Gives Russia Four Years to Outstrip U.S." stated that "prodded by apprehensive public statements by General Nathan

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[69] "Reversal on Russian Airpower Threat" *Aviation Week,* June 6, 1955, pg. 134.
[70] "Soviets show New Airpower Over Moscow," *Aviation Week,* July 18. 1955, pg. 16.
[71] Speech by U.S.A.F. Vice Chief of Staff Thomas White, "White Warns of Red R&D, Production," *Aviation Week,* February 20, 1956, pg. 31.
[72] "Russians Outpacing U.S. in Air Quality, Twining Warns Congress," *Aviation Week,* February 27, 1956, pg. 27.

Twining ... and General Thomas White, the Administration on August 9 submitted a supplemental Fiscal 1957 budget request of $248 million to Congress ... to be used to increase the procurement of B-52's and step up the jet bomber's production rate." As reported in *Aviation Week,* this increase was still considered inadequate by the head of the U.S. Strategic Air Command General Curtis LeMay who felt the U.S. would still be at risk because "production of the [Russian] BISON bomber at present is still greater than that of the B-52, 'if our estimates are correct.' Combined BISON and BEAR production is 'substantially' higher than B-52 production."[75] Only three weeks later on May 28, 1956, LeMay in Congressional testimony predicted that "Russia will have the strategic air capability within three years to deliver a knock-out blow which would destroy the U.S." if finding levels are not increased further.[76] After another three weeks, LeMay in Congressional testimony requested an additional $1.8 billion for new B-52 bombers, $1.8 billion for new bases, and $100 million for parts and other components.[77]

American strategists and defense planners were not so easily duped by obvious Soviet ploys, but were truly victims of a well planned Soviet deception campaign. The fact that the Soviet deception was so successful owes more credit to the ability of the Soviets to completely close off their society to outside observation than blame on the part of the U.S. for being so easily deceived.

U.S. strategists considered the possibility that Soviet disclosures were part of a deception campaign but dismissed the idea. A 1954 RAND study pronounced that

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[73] "Airpower Strength Evaluation Planned by Senate Committee,": *Aviation Week*, September 19, 1955, pg. 16.
[74] "President Seeks $8 Billion for Aircraft and Missile Procurement," *Aviation Week*, January 23, 1956, pg. 27.
[75] "General LeMay Gives Russia Four Years to Outstrip U.S." *Aviation Week,* May 7, 1956, pg. 28.
[76] "U.S.S.R. Will Have Knock-Out Punch in '59," *Aviation Week,* May 7, 1956, pg. 28.
[77] "Le May Asks for $3.8 Billion Budget Hike," *Aviation Week*, June 18, 1996, pg. 26.

> what we are witnessing in this current development is obviously a Soviet technique of disclosure.... A few observations about past Soviet practice in weapons disclosure will be made, however, with particular reference to the extent to which it has involved bluff. In the past, Soviet leaders have apparently believed that, since the strength of Russian armed forces served as the ultimate and probably also the most reliable deterrent against possible attack from abroad, it was wise policy to reveal that strength to a potential enemy.... *The Russians seem never to have claimed possession of weapons which they did not actually have or were not interested in and capable of developing.*[78]

Another RAND report published one year later conceded that "interpretation of Soviet disclosures of military capabilities and intentions is a major problem in intelligence evaluation." The author Raymond Garthoff concludes that "Soviet disclosure by display of new aircraft reveals no known or apparent use of this medium for deception on aviation weapons development."[79]

In the absence of good intelligence, and considering the opaque nature of the Soviet Society, RAND analysts advised the Air Force that the Soviets were probably not bluffing since Soviet pronouncements had generally been genuine in the past. Consequently, the signals the Soviets were sending about bomber strength were assumed to be true. A conservative estimate was probably seen as prudent strategy at the time. There is a logic in worst-case-scenario planning when estimating the strength of an opponent who could destroy all of your largest cities. While this is an imperfect way to analyze the strength of an opponent, it only underscores how great a need the U.S. had for a new and better intelligence collection system.

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[78] *Apparent Soviet Disclosures of New Weapons December 1953 January 1954*, RAND Corporation report 2074-PR, M.J. Ruggles, L. Goure, 3 February 1954, pp 4-6 (emphasis mine).
[79] *Disclosure and Demonstration in Soviet Military Policy: A Survey of the Problem of Analysis,* RAND Corporation report 2843-PR, Raymond L. Garthoff, March 31, 1955.

The CIA's Response – The U-2

The Eisenhower administration, under tremendous pressure from the Congress and the Air Force to increase defense spending, agreed to raise its 1957 budget submission for U.S.A.F. aircraft procurement by $350 million. Even though Eisenhower was still eager to cut the defense budget, he was receiving intelligence reports that supported the bomber gap notion. These reports were bolstered by intelligence estimates that relied on the same data available to the U.S. Air Force and open sources which came from official visits to the U.S.S.R., Soviet military demonstrations, and Soviet air shows. The President felt these reports left him little choice but to raise defense spending to meet the Soviet threat.

Through 1956, the CIA estimates on Soviet airpower assumed the Soviets had produced 45 BISON and 35 BEAR long-range bombers, and predicted the Soviet Union by 1959 would have 400 BISON and 300 BEAR aircraft in operational use to attack the continental U.S.[80] This predicted level of Soviet airpower threatened to put all U.S. bases at risk of Soviet attack by the end of the decade, but the prediction was based on the assumptions that came out of the supposed increase in strength witnessed on official visits and at the Soviet airshows. As inaccurate as were these sources, there was still no better source of information on Soviet airpower, even though various inventors and defense contractors for the years between 1948 and 1953 had been offering the Air Force a better method of collecting such information.

The U.S. Air Force in the late 1940's and early 1950's had toyed with concepts of building a special purpose reconnaissance airplane designed for no other mission than high altitude overflights of the U.S.S.R., but all such concepts were blocked by internal debates

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[80] Central Intelligence Agency National Intelligence Estimate 11-56, November 1956, found in *Soviet Gross Capabilities For Attack on*

over the necessity of designing a special reconnaissance aircraft vs. adapting long bombers to the task. Most generals at the time were uninterested in building and buying any plane that carried no guns nor bombs. By the end of 1954, however, the civilian officials within the U.S.A.F. had turned around to believe there was a need for such a plane, largely because of the level of uncertainty of what was going on within the Soviet Union, and because the existing modified bombers were not up to the task of getting the information the U.S. desperately needed.[81]

The Air Force in the Summer of 1954 awarded one contract for a specialized, high-altitude reconnaissance plane to the Martin company from the United Kingdom for a modified version of their Canberra bomber (which became known in the U.S. as the B-57), and another contract was awarded to the American Bell company for its proposed X-16 reconnaissance airplane. One notable proposal the Air Force rejected came from the Lockheed Corporation, offering the plane that would become known as the U-2 (see photos in Appendix A). Undaunted, Lockheed continued development of its plane and sought other sources of funding. Lockheed's eventual source of funding would be the CIA.[82]

Eisenhower himself in late-1954 directed the CIA to begin development of the Lockheed design. Eisenhower during the bomber gap controversy had commissioned several groups of scientists and inventors to examine the problem of collecting information on the U.S.S.R. One of these groups was the President's Science Advisory Board whose membership included Massachusetts Institute of Technology President James Killian. Another group was simply known as the Land Committee because it was chaired by

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the U.S. and Key Overseas Installations and Forces Through Mid-1959, pg 6.
[81] *The CIA and the U-2 Program, 1943-1974*, pp 20-31.

Polaroid Corporation founder Edwin Land. Lockheed chief designer Kelly Johnson – looking for a customer for his reconnaissance-plane design after it was rejected by the U.S. Air Force – met with Land and Killian in the Summer of 1954 and convinced them that only the Lockheed design could fly at high enough altitude to remain out of reach of Soviet air defense weapons.[83] Land and Killian met with Eisenhower in late-November, 1954 and convinced him that American intelligence needed the Lockheed plane. According to Killian's memoirs, "Eisenhower approved the development of the system, but he stipulated that if should be handled in an unconventional way so that it would not become entangled in the bureaucracy of the Defense Department or troubled by rivalries among the services."[84] Eisenhower's reasoning was that he wanted the U-2 program to be a civilian operation. In his records the President wrote that "if uniformed personnel of the armed services of the United States fly over Russia, it is an act of war – legally – and I don't want any part of it." In this way the CIA was directed to fund and develop the plane that became designated the U-2.[85]

Lockheed delivered the first U-2 to the CIA in July, 1955. To develop the plane in less than eight months, Lockheed had taken the fuselage from a conventional F-105 fighter plane, removed the wings, stripped it down to its most essential components, and then mated the body to unconventional aluminum wings which most resembled those of a sail plane. Other technical hurdles had to be overcome as well, such as developing a jet engine that could operate effectively at the operating altitude of 70,000 feet, and developing a high-resolution camera system which would be used for imaging targets. The first U-2

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[82] *Ibid*, pp 20-31.
[83] *Ibid*, pp 111-114.

squadron was operational and deployed to Wiesbaden, Germany in July 1955, ready to fly over the U.S.S.R. and learn the truth about the Soviet long-range bomber force.[86]

The Bomber Gap Shuts

Eisenhower in July 1956 approved 10 days of U-2 missions to fly over the U.S.S.R. and collect data. It took photointerpreters almost two months to analyze the reconnaissance photos (see photos in Appendix A) brought back by the U-2, but by the end of August intelligence analysts had concluded that there were neither BISON, nor BEAR bombers at any of the Soviet long-range bomber bases known to the U.S. They concluded it unlikely-to-impossible that the Soviets had constructed unknown long-range bomber bases, given the known bombing ranges and existing airbase infrastructure within the U.S.S.R. By the end of the summer of 1956, the Eisenhower Administration knew the bomber gap was a myth, and that in reality the U.S. held a strong lead over the U.S.S.R. in long-range, strategic bombers.[87]

The difficult role for the Administration was trying to contradict more than two years of false data and analysis that convinced the American people of the Bomber Gap in the first place. The Administration's reluctance to disclose the existence of either the U-2 or the top secret photos it had brought back made the task of correcting this misinformation even more of a challenge. Even most Congressmen and U.S. Air Force decisionmakers were left in the dark. Ironically, ignorant of the recently developed and freshly analyzed U-2 reconnaissance photos, Congress in August, 1956 increased the FY 1957 Air Force

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[84] Sputnik, Scientists, and Eisnehower, James Killian, pg. 84.
[85] CIA History Staff U-2 Study, pg 60.
[86] CIA History Staff U-2 Study, pp 80-96.
[87] CIA History Staff U-2 Study, pp 9-13.

budget appropriation over the Administration's request by $800 million.[88]

However the budget Eisenhower submitted in January 1957 for FY 1958, his first budget since receiving the analysis of the U-2 photos – set in motion a gradual but significant decline in U.S.A.F. airpower, which dropped at its fastest rate since the disarmament after WW II. The U.S.A.F. goal of fielding 137 active air wings was cut to 128 as part of this new budget, with a more likely target of 120 wings set for the near term. Despite the rhetoric of the bomber gap Eisenhower claimed his budget offered "wise and reasonable protection for the country."[89]

The inevitable and strong opposition to the reduced budget was stifled by Air Force Secretary Donald Quarles who in testimony before the Senate Armed Services Committee declared "the U.S. is substantially ahead of the U.S.S.R. in long-range strategic air capability – and will remain so under the Administration's program."[90] The revelation killed Senate opposition to the budget reductions in bomber and fighter strength and the reductions passed through the budget process quickly.

This testimony was the first open indication that the bomber gap did not exist. Without the U-2 photography, no major press source or expert-outsider like RAND had ascertained the true strength of the Soviet bomber force. The intelligence community had access to (and power over) information available to no other source, giving the intelligence agencies of the U.S. government a monopoly over the most important information policymakers needed. The policymakers who had the U-2 images of Soviet bomber bases were able to make informed decisions in a way that was impossible for any policymaker

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[88] "Congress Gives Airpower New Strength," *Aviation Week,* August 13, 1956, pg. 30.
[89] "$8.6 Billion Asked for Planes, Missiles," *Aviation Week,* January 21, 1956, pg. 26.

who did not have access to the intelligence. The obvious conclusion for policymakers to learn from this case was that intelligence was vital for relieving uncertainty in the most important foreign policy events.

There was little time, however, for analysis of the intelligence community's role in these events or even how or why the misperception of Soviet bomber strength could go on for so long. By the end of 1957 the U.S. was engaged in controversy similar to the bomber gap, but this time involving Soviet long-range, intercontinental ballistic missiles (ICBMs).

The Missile Gap

The Missile Gap case follows right on the heels of the Bomber Gap and shows once again that in the most pressing foreign policy issues of the day, the intelligence community had a dominant position in supplying policymakers with the most important, most accurate, and valuable analysis available.

Despite the U.S. discovery of Soviet deception of the bomber gap, U.S. policymakers and intelligence analysts only one year later were duped by Soviet leaders' pronouncements about the strength of another arm of Russian nuclear forces. In the years between 1957 and 1961, American policymakers based defense and national security policy decisions on analysis that the U.S.S.R. was ahead of the U.S. in the production of intercontinental ballistic missiles (ICBMs). Again, policymakers' need to be informed was satisfied by information collected by unique sources developed exclusively by the intelligence community – the first U.S. reconnaissance satellites code-named CORONA, and a Soviet military intelligence colonel named Oleg Penkovskiy.

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[90] "Quarles Slows Bid for Boost in Budget," *Aviation Week*, March 4, 1957. Pg. 28.

The Missile Gap Opens

Early in 1957, a CIA National Intelligence Estimate (NIE) assessed that "we have no direct evidence that the U.S.S.R. is developing an ICBM, but we believe its development has probably been a high priority goal. We estimate that the U.S.S.R. could probably have a 5,500 mile ICBM ready for operational use in 1960-1961."[91] There was some cause for concern over this estimate, but the Eisenhower administration had just successfully resolved the bomber gap controversy, learning that the U.S. still held strategic nuclear superiority. Even though Eisenhower had successfully reduced defense spending for 1957, U.S. ICBM development and funding was proceeding at a conservative but steady pace to meet the Soviet challenge. There was little or no action taken to respond to the CIA estimate.[92]

The first real indication to the American public of a Soviet ICBM force came in April, 1956 when Soviet Premier Nikita Khrushchev during a diplomatic visit to the United Kingdom issued a warning that "Russia is developing an intercontinental ballistic missile with a hydrogen warhead" that "can hit any point in the world."[93] *Aviation Week* reported that President Eisenhower, Senator Symington, and Air Force Secretary Quarles all made statements asserting their belief that was Khrushchev was not bluffing.[94]

The revelation of a Soviet ICBM program came as a shock to the American public, and to many in Congress as well, both of whom had no access to CIA estimates. Eisenhower and the U.S. Air Force believed Khrushchev's statement since CIA estimates in 1954 had predicted there was "conclusive evidence of a great postwar Soviet interest in

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[91] *Soviet Capabilities and Probable Programs in the Guided Missile Field,* CIA National Intelligence Estimate #11-5-57, January 1957, pg. 3.
[92] *For The President's Eyes Only*, Christopher Andrew, p240.
[93] Central Intelligence Agency History Staff, *Estimates,* pg. 55.

guided missiles and indications that the U.S.S.R. has a large and active research and development program."[95] Even though there was little data on any specific Soviet missiles under development or in production at the time, the CIA predicted the U.S.S.R. might have an operational ICBM as early as 1960, but more likely by 1963. There had been no real cause for alarm in the Eisenhower Administration in 1956 and 1957 since the U.S. still held the strategic edge in bombers and was planning on deploying its own Titan ICBMs by 1962.[96] Only one year later in May, 1957 the Soviet Union surprised the U.S. to become the first nation to test an ICBM (see photos in Appendix A). U.S. intelligence sources leaked to the press that the Soviets had made their first flight test of a missile prototype with intercontinental range. As a consequence, fears about a missile gap were felt throughout the U.S.[97]

These fears were justified. The two components of the gap were advances in Soviet ICBM development, and lags in the U.S. program. While the Soviets had launched their first successful ICBM test, the first U.S. experimental system, the American Atlas ICBM was still awaiting its first test.[98] Adding insult to injury, four weeks later the first test of the Atlas was a complete failure as the missile exploded for unknown reasons only minutes after launch. Given the Soviets' apparent successful launch of its first intercontinental ballistic missile – at least a year ahead of secret U.S. forecasts – and the *failure* of the first American ICBM, fears of a missile gap quickly gained strength among the press,

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[94] "Reds Brag About Hydrogen Missile," *Aviation Week*, April 30, 1956, pg. 18.
[95] *Soviet Capabilities and Probable Programs in the Guided Missile Field*, CIA National Intelligence Estimate #11-6-54, October 1954, pp 1,4.
[96] Central Intelligence Agency History Staff, *Estimates*, pg. 55.
[97] "Beaten to the ICBM Punch," *Aviation Week*, May 20, 1957, pg. 31.
[98] "Beaten to the ICBM Punch," *Aviation Week*, May 20, 1957, pg. 31.

policymakers and intelligence analysts alike.[99]

An *Aviation Week* editorial summed up the initial stirrings of new fears of American inferiority to Soviet strategic strength. The magazine asserted that it seemed as if

> for the five years of 1949 to 1954, the pace of ballistic missile development in this country slowed to a leisurely walk. During this same period the Soviets continued to make their top priority ballistic missile development.... While the U.S. "hare" took a forced nap through an 'economy budget' sleeping pill, the Soviet "tortoise" plodded on at steady if not spectacular pace.[100]

Compounding these feelings, Russia launched the first earth-orbiting satellite Sputnik in October 1957, once again suggesting to the U.S. that the Soviet Union was ahead in rocket technology which was directly applicable to ICBM development.[101]

The effect of Sputnik on the Missile Gap cannot be underestimated. Eisenhower was said to be shocked by the "wave of near hysteria" which had so rapidly swept the nation. It was as if "the United Sates ... [felt] it had suffered a scientific Pearl Harbor that left it exposed to Soviet missile attack."[102]

Just as during the bomber gap era, the Administration's aim of limiting defense spending came under intense fire with the revelation of heretofore unexpected demonstrations of Soviet scientific and military strength. U.S. Air Force and defense industry leaders in 1957 saw an opportunistic moment to testify on the floor of the U.S. Congress that they were "facing the inevitability of stretchouts or elimination of some aircraft and missile programs in ... fiscal 1958 and beyond ..." because of the

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[99] "Facts and Fiction on the ICBM," *Aviation Week*, September 2, 1957, pg. 108.
[100] "Facts and Fiction on the ICBM," *Aviation Week*, September 2, 1957, pg. 108.

"Administration's strong determination to stay within budget ceilings and the national debt limit." The point they were making was that these cuts were now coming at a time when the nation's security could least afford them.[103]

The Missile Gap Widens

By late 1957, the successful Soviet launch of its first ICBM led U.S. Air Force leaders to predict that the Soviet Union would be able to overwhelm the U.S. with ICBMs by the end of 1960. Strategic Air Command (SAC) Chief General Thomas Power predicted that "Russia will attack the U.S. when they think they are stronger than we are... which will happen by 1960. SAC today is strong enough to discourage the Soviets from starting a general war ... but the situation will change as Red production of strategic missiles continues."[104]

As a consequence Congress in January, 1958 removed Eisenhower's $38 billion defense budget ceiling and added $1.26 billion to the fiscal year (FY) 1958 defense program, most of which was earmarked for ICBM research and development. Congress then went on to increase the FY 1959 budget by $400 million more than the FY 1958 budget offering "indications that this nation's missile bill will continue to go up" in future years. The President, bowing to pressure and public fears of the U.S.S.R., then signed these budgets into law.[105]

Adding to American fears of further lagging behind, Moscow in early December, 1958 announced its ICBM program had entered production status.[106] Only one month later,

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[101] Central Intelligence Agency History Staff, *Estimates,* pg. 56.
[102] Andrew, pg. 240.
[103] "Fiscal Policy Forcing Airpower Cuts," *Aviation Week*, June 17, 1957, pg. 26.
[104] "Power Says Soviets May Strike With Sufficient ICBM Potential," *Aviation Week*, December 23, 1957, pg. 26.
[105] "Missile Spending Spurred by Soviets," *Aviation Week*, March 3, 1958.
[106] "Soviet Union Reports ICBMs in Production," *Aviation Week*, December 1, 1959.

Soviet Defense Minister Marshal Rodion Malinkovsky announced at the Soviet Party Congress in Moscow that "the Soviet Union has intercontinental ballistic missiles with hydrogen warheads capable of hitting precisely any point on earth." He added that "our Army is equipped with a whole series of intercontinental, continental, and other rockets of long, medium, and short range."[107] This caught the U.S. totally by surprise since American ICBMs were still in the early phases of testing and would not enter serial production for two years. The need for intelligence was greater than ever to prove or disprove the Soviet claims, but the intelligence community at this time was not able to deliver.

The Limitations Of The U-2

Going back as far as the Summer of 1957, the pressure on Eisenhower to know if a Soviet ICBM force existed compelled him to approve nine U-2 flights for the Summer of 1957, beginning August 4th. CIA analysts were convinced that the main U.S.S.R. missile test facility and test range was located somewhere in Kazakhstan east of the Aral Sea but were uncertain where it was located. A U-2 pilot on 5 August, 1957, flying the first mission to search for Soviet ICBM facilities, was instructed to follow the rail lines in the region looking for anything that could be a missile launch pad. The pilot located the first Soviet ICBM facility ever discovered by the U.S. CIA analysts named the site Turyatam as it was labeled on a German map left over from WWII, but the Soviets identified the base as Baikonur (see photo in Appendix A). Two days after first Soviet announcement of a successful ICBM launch, a U-2 overflew the site again, taking better pictures that showed the site had only one operational missile launch pad.[108]

The U-2 had been able to confirm the existence of the Soviet ICBM test program by

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[107] "President Views Soviet ICBM Claims," *Aviation Week*, February 9., 1959, pg. 27.

locating the test launch facility, but it did not discover any operational launch sites, leaving unanswered the crucial questions U.S. policymakers needed to know. Repeated overflights of the test facility showed signs the Soviets were definitely engaged in an ongoing ICBM testing program of one type of ICBM designated the SS-6. Still, there was no data on the size of the program, the operational viability of the SS-6 missile, or any actual deployments that would support the Soviet disclosures. These were key questions since the U.S. was able to ascertain the SS-6 ICBM was a huge missile for its time – fully twice the size of the U.S. Atlas and proposed U.S. Titan which could mean it had greater range and payload capacity – and was fueled by cryogenic liquid that was terribly difficult to handle and needed to be laboriously and painstakingly loaded into the missile immediately before launch. This last limitation made the missile a poor choice for operational deployment since launch preparations could easily take days if not a week or two. It was hard for intelligence analysts to believe the Soviets would put such a missile into large scale production instead of pushing ahead to develop solid fuel ICBMs which were far easier to maintain, only had to be fueled once during initial construction, and could be launched at a moment's notice.[109]

Unable to disprove the existence of the Soviet ICBM program and having discovered the Soviets' main testing facility, CIA by late 1957 released a new special intelligence estimate that claimed "ICBM development has an extremely high priority in the U.S.S.R., if indeed it is not presently on a 'crash' basis. We believe the U.S.S.R. will seek to acquire a substantial ICBM capability as rapidly as possible." The intelligence

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[108] CIA History Staff, U-2 Study, pg. 138.
[109] Central Intelligence Agency History Staff, *Estimates*, pg. 56.

estimate moved up its timetable for Soviet development of an operational ICBM predicting that "some time during the period mid-1958 to mid-1959, the U.S.S.R. will probably have a first operational capability with up to 10 prototype ICBMs ... [which] could probably be produced ... to give the U.S.S.R. an operational capability with 100 ICBMs about one year after its first operational capability date, and with 500 ICBMs two or at most three years after first operational capability date."[110] The problem was that the CIA was making analysis based on the absence of data instead of on any data they had. This left considerable uncertainty in their conclusions.

Despite his serious need for information, Eisenhower approved only four more U-2 missions over the U.S.S.R. for the end of 1957, restraining the CIA out of fears that a U-2 could be shot down which would only further inflame relations between the U.S. and U.S.S.R. None of the four missions was able to discover any other Soviet ICBM facilities, and none produced any more intelligence on the SS-6.[111]

Eisenhower's fears about sending the U-2 over Soviet airspace were well justified. From the very beginning of the U-2 program Lockheed and the CIA had offered unfounded assurances the U-2's high altitude flights would make the plane invisible to Soviet radar and invulnerable to any surface to air missile (SAM) or fighter plane. The claim of invulnerability was correct, at least for the time being, since the U.S.S.R. in 1957 and early 1958 had no interceptor or SAM which could reach the U-2's operating altitude of 75,000 feet. However, even from the first U-2 flights Soviet radar had been able to detect the plane from the moment it appeared over the horizon, and Soviet diplomats lodged

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[110] *The Soviet ICBM Program*, National Intelligence Estimate SNIE # 11-10-57, August 1958.
[111] CIA History Staff, U-2 Study, pg. 167.

continued protests to the Eisenhower government about the overflights. After a Soviet protest on 5 March 1958 Eisenhower ordered all U-2 wings to indefinitely stand down from operations, effectively halting the only effective U.S. intelligence collection platform that could search for Soviet ICBM facilities. Eisenhower would not authorize another U-2 flight until July 1959.[112]

The grounding of the U-2 made the national news. *Aviation Week* in July, 1958 incorrectly reported that the Air Force, instead of the CIA, "has grounded its Lockheed U-2 high altitude aircraft ... which it uses for weather research. Russian Air Force journals make frequent mention of the U-2 ... suggest[ing] that ... U-2 flights are for the purpose of strategic reconnaissance."[113] The report proved that even though they had been powerless to stop the spy plane, the Soviets had known all along about the supposedly secret U-2 overflights, and had even correctly identified the plane. CIA attempts to conceal the plane's true mission had failed, but the missions themselves had been successful simply because the plane flew too high for the Soviets to intercept.

The CIA still had one remaining operational source of intelligence of great value but even data from that source led to misleading analysis on the part of the intelligence community. The U.S. had established powerful, long-range radar units in Turkey that could identify Russian missile launches and track the missiles throughout their entire flight.[114] Once the U-2 had identified the Soviet test launching facility, it became simple for the U.S. radar to identify when a launch had taken place and track it.

The truth about the Soviet ICBM program in the late 1950's was that it barely

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[112] CIA History Staff, U-2 Study, pp 136-149.
[113] "U-2 Grounded," *Aviation Week*, July 28, 1958, pg. 26.

existed. All Soviet statements about the successes of their ICBMs and the movement into serial production were propaganda. The Soviets had encountered serious setbacks with the SS-6 – their only ICBM in development – and "the program was at a standstill. As a result there were no ICBM launches from Turyatam between 29 May 1958 and 17 February 1959." The U.S. radar facility in Turkey recorded that Soviet launches had halted, leaving U.S. Air Force officials to incorrectly conclude the Soviet testing program was completed and the missiles were entering full production – just as Khrushchev had boasted. The U.S. Titan and Atlas missiles (see photos in Appendix A) were still at least two years away from serial production, giving the Air Force the evidence it needed to claim decisively that the U.S. lagged behind the U.S.S.R. [115]

To settle the controversy, Eisenhower grudgingly authorized several more U-2 flights in late 1959, but none of the flights returned with any pictures of Soviet ICBM operational sites or new testing facilities. Unable to accept there were no other ICBM facilities, the President ordered three more missions in early 1960 which also provided no data on any ICBM facilities. A July, 1960 CIA summary of the U-2 program to date highlighted the uncertainty of the issue and the heavy limitations of intelligence collection up to that point. The classified study stated "it is estimated that more than 85 percent of the suitable area, 95 percent of the priority areas, and 85 percent of the rail route mileage in priority areas have *not* been observed or covered by usable [aerial photography]. In view of the large areas still uncovered and the limited number of ICBMs that are likely to be deployed so early in the Soviet program, it is not surprising that none of these sites has

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[114] "How U.S. Taps Soviet Missile Secrets" *Aviation Week*, October 21, 1957, pg. 26.
[115] Freedman, pg. 70.

been positively identified."[116]

Through 1960 there was still no conclusive analysis anywhere of Soviet ICBM strength. A 1960 RAND Corporation report trying to assess Soviet intentions wrestled with the lack of any hard data by trying to assess both cases where the Soviets were either revealing true facts about their ICBM force, or were engaged in deception. The report opens with the proposition that "if Khrushchev has truthfully represented Soviet missile capabilities, he has the means to unsettle western intelligence estimates of Soviet ICBM forces.... If Khrushchev's recent ICBM claim is unfounded, he may hope by future claims and demonstrations to achieve no more than a heightening of U.S. leaders' uncertainty as to Soviet operational missile forces." The report goes on further to quote Khrushchev claiming "our country's territory is vast; it is possible for us to disperse ... rocket weapons and camouflage them well. We are creating a kind of system which ... would always be possible to put in action ... and hit targets from reserve positions." The conclusion of the RAND report is that Khrushchev's claim of concealed missiles is the explanation for why U.S. intelligence up to that point had not located a single operational Soviet ICBM site. The report addresses the possibility of Soviet deception, but claims in a footnote that "such deception is possible, though it seems unlikely. Had deception been his object, Khrushchev might have stressed the mobility of Soviet ICBMs, as a further means of unsettling intelligence estimates that they have not yet been extensively deployed; but he said nothing of mobility."[117] The conclusion of the 1960 RAND report therefore is that they considered the possibility of Soviet deception, but dismissed it in the face of a lack of

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[116] Visual-Talent Coverage of the U.S.S.R. In Relation to Soviet ICBM Deployment: January 1959 – June 1960, Central Intelligence Agency office of Research and Reports, 11 June 1960.

any hard data.

At the urging of program administrator Richard Bissell, Eisenhower in April 1960 authorized one additional U-2 mission to be flown no later than May 1st, 1960, so as not to create more tensions before the upcoming May 16th summit with Khrushchev. To fly the mission, Bissell authorized the selection of the most experienced U-2 pilot in the CIA – Francis Gary Powers – who had flown 27 successful missions over the Soviet Union. As Eisenhower had suspected, the Soviets had, over the previous four years, finally developed SAMs with great enough range to intercept a U-2 at operational altitude and Powers was shot down in one of the most famous incidents of the Cold War. As great a crisis as this created for relations between the two countries, the greatest impact for the CIA of the loss of the U-2 was that suddenly it had no source of information that could peer into the Soviet Union.[118]

The Soviet downing of the U-2 and Powers' subsequent capture, imprisonment, and jail term in a Soviet prison was perhaps the lowpoint for the U.S. intelligence community in the early Cold War period, but it was soon followed by perhaps the greatest intelligence triumph in the history of U.S. intelligence – the success of the CORONA program which for the first time gave the U.S. real insight into Soviet ICBM development.

The Success of CORONA and Human Intelligence

The true intelligence successes of the Missile Gap took place after Powers' plane was shot down. Only three months later in August, 1960, the U.S. successfully launched and recovered the first reconnaissance satellite publicly known as DISCOVERER but code named CORONA. Less than one year later, CORONA data was augmented by human

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[117] *Khrurshchev on Current Soviet ICBM Capabilities,* M. Rush, RAND Report RM-2555, March 15, 1960, pp iii-v, 16-17, 29.

intelligence (HUMINT) reports from Soviet GRU Colonel Oleg Penkovskiy that delivered to the U.S. the true nature of the Soviet ICBM force.

The U-2 when it was originally developed was assumed to have a two-year window of safety before the Soviets developed high altitude weapons that could shoot it down. Development of a replacement system – CORONA – began at about the same time as the U-2 (see photos in Appendix A). The program had its origins in 1946 with a RAND Corporation study on the feasibility of world orbiting, artificial satellites. The concept was not scientifically feasible until a booster rocket was developed that could put the satellite into orbit. This became possible in 1953 when the Air Force awarded its highest priority to the development of the Atlas rocket that could conceivably launch a satellite into orbit as easily as it could deliver a nuclear warhead on a Soviet target.

The CORONA program officially started in October 1956, coincidentally starting shortly after the U-2 had provided the first good information on Soviet long-range bombers. It was not until the Air Force booster rocket was mated with the CIA's design for a camera system that Eisenhower placed authority for the program under a joint Air Force/CIA office headed by the CIA's Richard Bissell. What made the program a CIA project was Eisenhower's firm directive that none of the funding for the imaging satellite come from the Air Force, but only from the CIA.[119]

The success of the CORONA program was the first real step towards learning the truth about Soviet ICBM forces. The function of the CORONA system was to orbit a low-altitude imaging system that would record images on film in a canister and then eject that

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[118] CIA History Staff, U-2 Study, pp 169-180.
[119] "Corona," Kenneth Greer, *Studies in Intelligence*, Supplement 17, Spring 1973.

canister back into the earth's atmosphere where it would deploy a parachute, drift down and be recovered by a specially equipped airplane. The first CORONA missions were almost complete failures, with defects occurring in the launch system, the imaging system, and the re-entry system.[120] The first successful recovery of a CORONA satellite came on the thirteenth mission which was only a partial success since the capsule was recovered in the ocean and not in mid-air as envisioned. The next mission, however, was a total success. The CORONA satellites brought back imagery photos of the Soviet Union that in one mission could cover "more than 50 percent of those portions within the U.S.S.R. within which ICBM deployment was most likely."[121] The mission not only delivered images of the U.S.S.R. that had never been photographed before by U.S. intelligence, but the first CORONA satellite alone delivered more imagery of the Soviet Union than had the entire U-2 program between 1956 and 1960.[122]

The other major intelligence success that helped end the notion of the Missile Gap was the recruitment of GRU Colonel Oleg Penkovskiy who passed information to the CIA revealing the extent to which the Kremlin was bluffing about its ICBM force. In a meeting with his CIA case officers in April, 1961, Penkovskiy, in referring to the Soviet ICBM force, reported that

> "Khrushchev is yelling that we already have all this. He says all I have to do is wave a hand and he can fire rockets in the direction of Cuba – but why is he not doing this? *This is a bluff.* [They] said that they can hit the continent of North America, but to hit a target at this great distance, no. [123]

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[120] Ibid.
[121] Central Intelligence Agency History Staff, *Estimates,* pg. 55-57.
[122] "Corona," Kenneth Greer, *Studies in Intelligence*, Supplement 17, Spring 1973.
[123] Penkovskiy meeting #6 with CIA, London, 25 April, 1961. See CIA Web Site www.foia.ucia.gov for declassified Freedom of Information Act CIA reports of Penkovskiy's meetings with CIA case offiicers.

Penkovskiy went on to describe that the Soviet ICBM force did exist, but that these were only

> test rockets, which are still undergoing further tests and are not on bases.... [The U.S.S.R.] does not have the capability of firing (even) one or two (ICBMs) ... there are not hundreds even in a testing status. There may be only tens in that category. Even now it may be possible that somewhere in the Far East ... there may be some missiles which could reach other continents and detonate with an atomic, even hydrogen explosion, but launchings would be completely unplanned, uncontrolled, and certainly not of a mass variety. Of this I am completely sure.[124]

Penkovskiy concluded that

> "the basic idea ... on the part of Khrushchev is to take the initiative and to impress upon the minds of the Western leaders that he already possesses in large quantities these missiles which he either does not have at all, or he only has a few of. Often there are tests of one character or another which in many cases are not even successful, but he already yells about this as an accomplished thing. Thus the whole idea ... is to illustrate in one way or another ... in order to impress upon your military leaders that the Soviet Union has everything. This is to force your government leaders and military people to do their planning on the assumption that the Soviet Union already has a tremendous military potential.[125]

Because of the HUMINT passed by Penkovskiy which was corroborated by CORONA imagery, the ultimate analysis of CIA in 1961 claimed that the Soviets had achieved operational capability with only four SS-6 launchers in mid-1960, and by 1962 would only deploy 36 launchers, mainly with a later version ICBM, the SS-7.[126]

The Missile Gap Shuts

In August, 1961, the latest CIA NIE concluded "new information ... has caused a

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[124] Ibid.
[125] Penkovskiy meeting #10 with CIA, London, 31 April, 1961.

sharp downward revision in our estimates on present Soviet ICBM strength.... We now estimate that the preset Soviet ICBM strength is in the range of 10-25 launchers from which missiles can be fired against the U.S., and that this force level will not increase markedly during the months immediately ahead." The Estimate credited two major sources for the revision. "Photographic coverage of large regions of the U.S.S.R. has provided the first positive identification of long range ballistic missile deployment complexes ... and has permitted detailed search of large areas of the U.S.S.R..... Finally, reliable clandestine reports have provided useful evidence on the general status and organization of long range missile forces.... Therefore, although significant gaps continue to exist and some of the available information is still open to alternate interpretations, the present estimate stands on firmer ground than any previous estimate on this critical subject."[127]

Even after CIA intelligence closed the door on the Missile Gap, other open sources of analysis without access to Penkovskiy's HUMINT or CORONA's imagery were still proclaiming the U.S.S.R. had a credible ICBM force. The Institute for Strategic Studies *Military Balance: 1961-1962*, proclaimed "it is considered possible that the Soviet Union could ... have by now built up a force of 200 ICBMs."[128]

The U.S. Congress, which did not have access to any of the intelligence in July, 1961, was still trying to fund defense as if the U.S. was lagging far behind. The Senate for example moved to accede to SAC Chief Curtis LeMay's request for over $1 billion in new funding for strategic systems in the next year's fiscal budget. The Senate had called in LeMay to testify "to contradict earlier testimony by Deputy Defense Secretary Roswell L.

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[126] Central Intelligence Agency History Staff, *Estimates,* pg. 55-57.
[127] Strength and Deployment of Soviet Long Rand Ballistic Missile Forces, National Intelligence Estimate #11-8/1-61, 21 September

Gilpatrick that that there is no immediate need to spend more money on defense systems." The Senate held further public hearings with Air Force officials to contradict similar closed session testimony given by DCI Allen Dulles who apparently echoed Gilpatrick's testimony that the U.S. had no strategic need for crash programs on nuclear delivery systems.[129]

Finally, in mid-November, 1961, the Kennedy Administration, in a move to counter Congressional claims that the U.S. lagged behind the U.S.S.R., released the conclusions of the latest NIE to the press, asserting the U.S. actually led the Soviet Union in strategic weapons systems. The *New York Times* report recounted the NIE estimate that the actual missile gap never existed, and that the U.S. at present actually led the U.S.S.R. in strategic nuclear delivery systems. This was the first account in any major U.S. press source that even suggested the U.S. led the U.S.S.R. in ICBM development. Interestingly enough, even with the data supporting the Estimate, while the Air Force "for the first time in many years ... subscribed to the lower estimates of Soviet missile strength, ... the Strategic Air Command has remained adamant and does not accept the more optimistic interpretations placed on the latest intelligence information."[130]

The conclusion of the Missile Gap case is that from 1957 until 1960, neither the intelligence community nor any open source was able to collect enough accurate data to develop good analysis on Soviet ICBM strength. The press, members of Congress and the U.S. Air Force all were raising fears of a massive Soviet lead in ICBMs without any real evidence of such a force, but the intelligence community was able to provide conclusive

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1961.

[128] The Communist Bloc and The Western Alliances: The Military Balance 1961-1962, The Institute for Strategic Studies, pp 1-3.

evidence that no missile gap existed. The advantage the CIA had over all other sources of data and analysis is that it had the national capabilities of the American government to develop, test, and deploy an entirely new form of data collection – the CORONA satellite – and also had an entire intelligence infrastructure in the U.S.S.R. to recruit Penkovskiy and collect his information on the Soviet military. No other open source or expert-outsider such as RAND or the International Institute of Strategic Studies had been able to access any one source of information that could peer so well into the Soviet Union, let alone two such sources.

CORONA and Penkovskiy gave the intelligence community a tremendous competitive advantage available to no other source, which made intelligence more valuable to policymakers than any other source of information. This was an advantage that carried over for John F. Kennedy into the Cuban Missile Crisis.

The Cuban Missile Crisis

John F. Kennedy was able to react to the Soviet deployment of intermediate range ballistic missiles (IRBMs) in Cuba because of the intelligence he received from the CIA. The intelligence not only proved to the be only credible source of information on Soviet IRBMs in Cuba, but came early enough to allow the U.S. to challenge the Soviets and force them to back down. No other source of information was able to give the President that freedom to act.

Early Signs of the Missile Crisis

Early signs of Soviet support in the early 1960's for the Castro regime were no secret from any source of information. The U.S.S.R. had supported Castro since before the

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[129] "Senate Moves Toward More Bomber Funds, *Aviation Week*, July 24, 1961, pg. 32.
[130] "U.S. Missile Lead Claimed in Study," *New York Times*, November 19, 1961, pg. A1.

success of his revolution against the Batista regime. Soviet involvement in Cuba after the establishment of a communist government in Havana had been an open secret and by early October 1962, tension between the U.S. and U.S.S.R. was discussed in the press solely over the issue of conventional arms shipments to Cuba. Open source press knew about Soviet support to Cuba but did not know the nature of the weapons. The *New York Times* as late as October 15 reported that "so far the weapons reaching Cuba from the Soviet Union apparently would be [defensive], useful only in fighting off an invasion of Cuba."[131]

The CIA at the time had been able to deliver far more detailed analysis. DCI McCone as early as August, 1962 had reported to the President that

> between 4000 and 6000 Soviet Bloc personnel have arrived in Cuba since 1 July.... The unloading of most ships takes place under maximum security, with the Cuban population excluded from the port areas. Large equipment is noticeable; large crates have been observed which could contain airplane fuselages or missile components....
>
> The implications are:
> (a) Increased technical assistance to Cuban industry and agriculture and/or the Cuban armed Forces.
> (b) Possible establishment of surface to air (SAM) missile sites.
> (c) Possible establishment of Soviet COMINT-ELINT facilities targeted against Canaveral and other important U.S. installations.[132]

At the same time, McCone was having discussions with Secretary of State Dean Rusk over the possibility of Soviet emplacements of intermediate range ballistic missiles (IRBMs) in Cuba. The deployment of SAMs in Cuba immediately suggested the need to protect a high value asset, which led to the hypothesis the Soviets were deploying nuclear-

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[131] "Khrushchev Offers a Deal on Cuba and Berlin Crisis,"
[132] DCI McCone Memorandum on Cuba," August 20, 1962, in *Cuban Missile Crisis:1962*, Central Intelligence Agency History Staff,

armed ballistic missiles to Cuba. Introduced to the idea that the Soviets might put such missiles at risk in Cuba, Rusk brought up the concept of a possible blockade around the island.[133] By August 23, 1962, Kennedy had directed McCone to have the Board of National Estimates working continuously on analyzing data collected on Cuba.[134]

U.S. Intelligence Efforts Aimed at Cuba

The CIA systematically developed a chain of evidence that became the sole source of conclusive evidence of Soviet ballistic missiles in Cuba. As of September 3, 1962, CIA had directed U-2 flights to observe areas in Cuba where there had been extensive military activity (see photos in Appendix A). Overhead photography had confirmed that the Soviets had placed extensive SAM equipment around certain heavily guarded areas, Soviet shipments had been stepped up, and analysts predicted there were signs Soviet shipments would not let up in the near future.[135] On October 1, 1962, a HUMINT source in Cuba reported that on 17 September he had seen a convoy of 10 motorcycles, 16 trucks, and eight trailers moving through the countryside into the mountains. He claimed the trucks were followed by eight Soviet-built flatbed trailers approximately 32 feet long ... carrying huge tubes ... covered with canvas."[136] On October 16, 1962, CIA reported that "photography of 14 October 1962 has disclosed two areas in the Sierra del Rosario mountains ... which appear to contain Soviet MRBMs in the early stages of deployment.... The most significant vehicles at this site are six canvas-covered trailers ... used to transport

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October 1992, pp 18-20

[133] McCone, Memorandum for the File, "Discussion in Secretary Rusk's Office at 12 o'clock, 21 August 1962," CIA History Staff *Cuban Missile Crisis*, pp 21-21.

[134] McCone, "Memorandum of Meeting with the President," August 23, 1962, CIA History Staff *Cuban Missile Crisis*, pg. 27.

[135] Ray Cline, Memorandum for Acting Director of Central Intelligence, "Recent Soviet Military Activities in Cuba," 3 September 1962, CIA History Staff *Cuban Missile Crisis*, pp 35-37.

[136] "CIA Information Report," 27 September 1962, CIA History Staff *Cuban Missile Crisis*, 107-109.

the Soviet SS-3 (700 nm ballistic missile) and SS-4 (1100 nm ballistic missile).[137]

The U-2 images took two days to develop, process and analyze. CIA briefed President Kennedy of the development on the morning of the 16th. The main questions remained about whether the missiles were operational and whether they had been mated with their nuclear warheads.[138] Until that information could be ascertained, the executive committee that Kennedy had put together agreed to try and conceal the existence of a crisis by maintaining their normal schedules.[139] For Kennedy, this meant a campaign trip to Chicago in preparation for the 1962 mid-term elections less than a month away.[140]

Identifying the images from U-2 photography relied on specific expertise that had come specifically through other intelligence means. Oleg Penkovskiy, by this time, had been arrested by KGB for espionage and would be executed the following year, but the intelligence he had already delivered to CIA included descriptions of how the Soviet military developed ballistic missile facilities, and also included visual descriptions of what those facilities might look like in different stages of development.[141] The Penkovskiy data was included in the CIA estimate *Joint Evaluation of Soviet Missile Threat in Cuba* and credited its source codenamed IRONBARK.

The analysis which came from the IRONBARK data concluded that the Soviet missiles "must be considered operational now and could be launched within 18 hours after the decision to launch."[142] Without Penkovskiy's detailed information, CIA photointerpreters looking at the U-2 photographs would have been unable to identify most of

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[137] CIA Memorandum, "Probably Soviet MRBM Sites in Cuba," 16 October 1962, CIA History Staff *Cuban Missile Crisis*, pp 139-142.
[138] Andrew, pp 287-289.
[139] *The Kennedy Tapes*, (The Belknap Press of Harvard University Press), Ernest May and Phillip Zelijow, pp. 116 - 117.
[140] "President Cuts His Tiur Short, Flies to Capital," *New York Times*, October 19, 1962, pg. A1.
[141] Andrew, pg. 290.

the IRBM sites and their stage of development.[143]

At the same time press reports were certainly aware of a Soviet arms build up and American concern, but were completely unaware of the serious nature of nuclear-armed ballistic missiles in Cuba. One day *after* the CIA report was delivered to the White House, the *New York Times* on October 19, 1962 reported that the U.S. Navy had deployed an additional squadron of fighter planes to the southern tip of Florida to counter the Soviet arms build up, but quoted without any contradiction a Pentagon spokesman who "insisted 'there's no reason to get excited about it....' He explained that it was an 'ordinary thing to do.'"[144]

Anyone without access to intelligence remained in the dark about IRBMs in Cuba up until the President revealed the nature of the crisis on public television. Only one day after the latest CIA estimate was sent to the White House, two days after the White House was first notified that U-2 images indicated Soviet missiles were deployed in Cuba, and only five days after the U-2 first took photos of those missiles, Kennedy returned early from his trip to Chicago, blaming a cold and fatigue from the trip. Vice President Johnson was reported to cut short a trip to Hawaii, also because he allegedly had a cold, and returned straight to Washington. The *New York Times* analysis asserted "the President's sudden return to Washington prompted speculation about possible urgent business here that required his attention. There was even one report that he did not have a cold, but the White House denied this." Meanwhile, Dean Rusk had cancelled a speech on Saturday, October 20, and a Pentagon spokesman confirmed that the Joint Chiefs of Staff had been requested

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[142] *Joint Evalution of Soviet Missile Threat in Cuba,* 18 October 1961, CIA History Staff *Cuban Missile Crisis*, pp 187-189.
[143] Andrew, pg. 290.

not to leave the city, "presumably because of the need to reach difficult decisions on the coming military budget." The *Times* also reported "unconfirmed reports of vigorous evening activity in White House offices in the last 48 hours."[145] The following day the *New York Times* reported "there was an air of crisis in the capital tonight," but that the President "has wrapped a tight veil of secrecy around the source of concern so far." The *Times* speculated the concern was over something having to do with Cuba and the deployment of over 40 U.S. warships to the Caribbean but could not report anything more definitive, especially about any deployment of nuclear-armed ballistic missile.[146] The following day Kennedy announced the American blockade of Cuba to halt further shipments of Soviet military supplies to Cuba.[147]

Until Kennedy's television announcement, there had been no prior publicly released data or analysis about Soviet nuclear-tipped IRBMs in Cuba. The *New York Times* had speculated that the President and Vice President might have cut short their respective trips because of illness, and that the Joint Chiefs of Staff were requested to stay in Washington for budget deliberations. The analysis would have been completely different had there been any competing source of information with information on Soviet IRBMs in Cuba, but only the U.S. intelligence community had that information. This made inferior all other reporting on Cuba and Soviet intervention, and made CIA data and analysis invaluable.

Conclusions

The objective of the last two chapters is to show how policymakers use and need information to make decisions, and use case studies to illustrate how intelligence

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[144] "Squadron of Jets Sent to Florida In Reply to Cuba," *New York Times*, October 19, 1962, pg. A1.
[145] "President Cuts His Tour Short, Flies to Capital," *New York Times*, October 19, 1962, pg. A1.
[146] "Capital's Crisis Air Hints At Development of Cuba; Kennedy TV Talk is Likely," *New York Times*, October 22, 1962, pg. A1.

historically came to be the most important source for that information. Chapter 2 opens with a discussion of how policymakers need information to relieve the stress and malaise that comes from making crucial policy decisions in the face of uncertainty. Prior to the information age, there were few cases more illustrative than the Bomber Gap (1954-1957), the Missile Gap (1957-1961) and the Cuban Missile Crisis (1962) that were as important to policymakers as they were plagued by the stress that could come from making decisions in the face of uncertainty. In all three cases, policymakers came to realize that information from the intelligence community – more than information from any other source – could best overcome that uncertainty.

U-2 photography in the Bomber Gap alerted Eisenhower that Soviet disclosures and demonstrations of long range bombers did not constitute a major long-range bomber force which outnumbered that of the U.S. Air Force. CORONA imagery and HUMINT reports from Oleg Penkovskiy alerted the CIA that the Soviets did not have any lead at all in ICBMs in the Missile Gap. HUMINT and U-2 imagery was the key for CIA to learn of the Soviet deployment of IRBMs to Cuba. Moreover, Penkovskiy data was crucial to alerting the U.S. about the state of readiness of the Cuban missiles, and also allowed CIA to tell President Kennedy with some assurance that the Soviets did not have a credible ICBM force with which to threaten the U.S. in retaliation for the Cuban blockade.

The U.S. intelligence community had exclusive sources and methods for collecting information that allowed it to develop better analysis and better inform policymakers than any other source. Any policymaker who lacked access to intelligence in any of these three

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[147] "Kennedy Imposes Arms Blockade on Cuba," *New York Times*, October 23, 1962, pg. A1.

cases was not as well informed as any policymaker who had that access to intelligence. On the other hand, CIA analysis at that time was hardly invulnerable to criticism either.

The intelligence community had very poor capabilities to analyze Soviet bomber strength before the development of the U-2, had no ability to analyze Soviet ICBM strength before CORONA or before Oleg Penkovskiy volunteered to divulge strategic information on his own country, and certainly had no way to learn the truth about the Soviet missiles in Cuba without a combination of all the aforementioned sources of data. In the first two cases it was a matter of years between the time policymakers identified a need for better information on these issues, and the time the intelligence community was able to develop to U-2 and CORONA to answer that need. The implications for the intelligence community/policymaker relationship in the modern day are unclear however.

The intelligence community's dominant position from the era prior to the information revolution may not hold in the information age. As will be shown in the following chapter, the information age has created a dynamic and competitive market for information and attention, and markets can be brutal to institutions that respond slowly to consumers needs.

The advantages the intelligence community held allowed it to consistently put out poor analysis and still have policymakers rely on intelligence for year after year until the intelligence agencies got it right. Policymakers today, looking for the best information to relieve uncertainty in crucial foreign policy events, in some cases might be able to find better sources of information in the private sector. New commercial and Web-based information sources are much more likely to compete with any comparable type of intelligence analysis – and compete well. The rest of this dissertation will examine how

well those alternate sources of information do indeed compete for policymakers' attention in select foreign policymaking cases. The first step will be to examine the nature of the information revolution, and then assess its impact on the environment in which policymakers make decisions.

Chapter Four – The Information Age and Its Effects

Summary

The information revolution may be changing how policymakers access information, as well as the sources they rely on to support foreign policy decisions. To understand how these effects may be taking place, this chapter presents an in depth examination of the information revolution and its effects on the intelligence and policy communities.

The chapter opens with a description of the nature of the current information revolution. The next section examines the effects of the information revolution on the intelligence and policy communities, presenting an organizational analysis of both. The goal of this section is to establish what traditional and information age efforts these communities have implemented to give policymakers access to the best information. The intelligence community's major effort to implement information age technology has been to create the classified network Intelink and this chapter examines Intelink, presenting data collected through primary use of the network, as well as data collected from interviews of individuals who were part of the team that developed it and those who have access to Intelink on a daily basis.

The policy community's efforts to implement information age technology varies across agencies, and so this chapter presents an in depth examination of four selected policy agencies. This analysis will show how these organizations have developed infrastructures that in many ways either enable or inhibit policymakers from accessing the best information when they have a need to be informed. This last section sets the stage for the following chapter to present the major analysis of this dissertation, which is

to examine the behavior of individual policymakers, and how valuable they find intelligence analysis to be in the information age.

The Nature of the Information Revolution

The information revolution refers to the ongoing social, political, and economic change brought about by technological advances in computing and communications. As University of California at Berkeley sociologist Manuel Castells explains, "we are living though one of those rare intervals in history.... an interval characterized by the transformation of our 'material culture' by the works of a new technological paradigm organized around information technologies."[148]

RAND researcher Jim Dewar suggests that the networking of computers -- the first true many-to-many communications medium -- is defining characteristic of the modern information age.[149] When the two technologies of computers and telecommunications are integrated to create networks of interconnectivity, opportunities for new applications and utilities proliferate, the most notable of which is the Internet whose users total hundreds of millions in number. The exponential growth in both the power of this technology and its popular use is what makes the current period of change a "revolution." By 2005, Internet users will total over one billion, a sum that will explode by 2010 to 3.5 billion users.[150] Just within the past ten years,

> measurement of the information revolution on almost any dimension – *numbers* (of telephone circuits, television receivers, videocassette recorders, video cameras, or fax machines), *capacities* (of transmission media, storage

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[148] Manuel Castells, *The Rise of the Network Society,* Oxford: Blackwell Publishers, 1996, p. 29.
[149] Jim Dewar, *The Information Age And The Printing Press: Located Backward To See Ahead,* RAND P-8014, 1998 Pg. 3.
[150] Richard Burt and Olin Robison, Center for Science and International Studies (CSIS), *Reinventing Diplomacy in the Information Age, A Report of the CSIS Advisory Panel on Diplomacy in the Information Age,* project co-chairs; Barry Fulton, October 9, 1998, Pg. 15.

> devices, or displays), *speed,* or *cost* – is described not in mere percentages, but in factors of three, ten, or more.[151]

Another way to actually gauge the measure of change brought about by new technology is through comparisons with periods of change from earlier eras. Comparing the best-known period of technological advance – the industrial revolution – with today strongly suggests that we are currently in the midst of a revolution. The real cost of cotton cloth, the commodity most affected by contemporary advances in mechanical energy production and engineering, dropped at a rate of 3.4 percent per annum during the peak of the first industrial revolution from 1780 to 1815. Replacing "animal, water, and wind power with steam power (perhaps the most significant of the many incremental changes associated with advances in textile production) roughly halved the marginal cost of the power required for producing the output of England's textile miles in 1800.[152]

While textile production was the best benchmark for gauging the industrial revolution, the growth in computing power is one of the best benchmarks for measuring the information revolution, since computers are a major driver. In comparison to the price of cotton, computer prices have fallen much more rapidly over the past 20 years at a rate of decline (with performance held fixed) seven or eight times as rapid as the decline in the relative price of cotton cloth.[153] Meanwhile, the Internet – the strongest force of the information revolution as the nexus where networked computers and telecommunications technology merge – has been growing exponentially as well, doubling in size and number of users every 12 – 15 months. The true commodity of the

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[151] Steve Bankes and Carl Builder, *Seizing The Moment: Harnessing The Information Technologies,* pg. 3
[152] Bryan Ellickson, *Gauging The Information Revolution,* RAND Publication N-3351, 1991, pp 7-9.
[153] Ellickson, pp 7-9.

information revolution – information itself – is also expanding on the Internet at an exponential rate.[154]

There is a complementary anecdote -- provided by the authors of the most comprehensive studies of the social and economic impact of the integrated circuit -- that relies on an analogy of comparing computers with transportation. The time it takes to cross the United States has jumped from 22 days in 1860 (by pony express) to five hours today by jet airliner. This represents an improvement of two orders of magnitude. Such impacts, of two or three orders of magnitude, are typical of the industrial revolution. It was this increase in technological power that created an environment where revolutionary changes could take place in society. In contrast, advances in computer performance have exhibited an increase in only 20 years of nearly six orders of magnitude. Computer power prior to the past 20 years had seen perhaps only one order of magnitude increase over the previous 2,500 years.[155] There is no better word used to describe this explosive growth and adoption of technology than the term *revolution.*

The History of the Information Revolution

The first shots to be fired in the modern information revolution started over 100 years ago at the birth of the computer, but only really took shape when the advances in computer technology were merged with advances in communications technology. The modern history of the information revolution therefore has two components: the development of the computer and the development of communications media to link computers together.

Components of the Information Revolution
1. Computer Technology
2. Telecommunications Technology

Figure 4-1

[154] Dewar, pp 3-6.

The Computer Revolution

The birth of the computer took so long that it was virtually unnoticeable at the time. Charles Babbage, an inventor and member of the Analytical Society of Cambridge, England in the 1820's devoted most of his time to developing the world's first programmable computer. Although based entirely on mechanical technology of the 19th century, Babbage's design of an analytical engine foreshadowed the modern computer (although Babbage was never able to actually create a working model with the technology of his era).[156]

The world's first operational, programmable computer was created in England over 100 years later for the British WWII effort of cracking German military radio codes. British scientist Alan Turing and his colleagues constructed the computer from electro-mechanical telephone relays. The computer's electronic intelligence – its central processing core – was named Colossus and was built from 2,000 radio tubes. Colossus and nine similar machines running in parallel provided uninterrupted decoding which gave vital military intelligence to the Allied war effort.[157] The first American programmable computer, the Mark I, was completed in 1944 by Howard Aiken of Harvard University and IBM, and it borrowed heavily from the original architecture drawn up by Charles Babbage back in the early 19th century.[158]

The problem with the early computers in the 1940's and 1950's was that they were incredibly bulky, slow, and held small amounts of memory which was the binding constraint in their development. Vacuum tubes, though used initially in the central

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[155] Ellickson, pg 9-10.
[156] Ellickson, pg. 25.
[157] Kurzweil, pp 66-69.
[158] Ibid, pg. 68.

processing core, were too expensive and volatile for data storage. Inventors had to rely on a more exotic memory storage unit known as a ferrite core. The major drawback was expense: though cheaper than vacuum tube storage, cores at the time initially cost over 5 dollars per bit (in contrast to today where $5.00 will buy well over 1,000,000 bits of computer memory with the price dropping rapidly)."[159]

In 1947, Gordon Moore, working as an inventor at Bell Labs, created the integrated circuit which enabled the creation of electronic switches far faster than vacuum tubes, took up less space than the memory it replaced, generated less heat, and was not prone to burn out as did vacuum tubes. The early transistors still were plagued with a high cost that restricted their use but mass production of the transistor became cost effective by 1959.[160]

By the early 1960's massive numbers of transistors could be used in a single processing unit for one computer. The breakthrough marks "the dividing line between the first and second generation of computers.... The CDC 6600, ... developed in the early 1960's and widely regarded as the first supercomputer, used about 500,000 transistors, cost $1.9 million," and filled up the space of two large rooms, in comparison to the Intel Pentium II CPU which by the end of the 20th century had over 9 million transistors packed into a chip smaller than a two inch square and cost under $1000.[161]

The invention of the integrated circuit chip in 1958 fundamentally changed the economics of computer design because all the expensive components became integrated on a single microchip, instead of being constructed from discrete components; individual

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[159] Ellickson, pg. 4.
[160] Ibid, pg. 4.

vacuum tubes, capacitors, resistors, and diodes wired together to build the processing circuits. The new central processing unit (CPU) was small in size and relatively inexpensive to produce for business use, but still too costly for home use.[162]

Gordon Moore, who by the mid-1960's had left Bell Labs and become chairman of the Intel Corporation, noted in 1965 that every 12 months the surface area of the transistor (as etched on an integrated circuit) was being reduced by approximately 50 percent.[163] Moore himself claims that his 1975 update was revised to 24 months, which does seem to better fit the data in the table below.[164]

Moore's Law At Work[165]

Year	Transistors in Intel's latest chip (According to the Consumer Electronics Assoc.)
1972	3,500
1974	6,000
1978	29,000
1982	134,000
1985	275,000
1989	1,200,000
1993	3,100,000
1995	5,500,000
1997	7,500,000

Figure 4-2

One factor early on that could have halted or prevented the advent of the explosion of computer power was the high cost of research and development for new computer technology, as well as the limited scope of the consumer base that had a

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[161] Ibid, pp 7-8.
[162] Ellickson, pg. 8.
[163] Bear in mind that Moore's Law applies to transistors on integrated circuits used in what became known as personal computers. Supercomputers at the time were individually made, almost unique machines, and Moore at that time did not include in them in his calculation.
[164] Kurzweil, pg. 21.
[165] Kurzweil, pg. 24.

demand for computers. Robert Noyce of the Intel Corporation by 1977 recognized that while the cost of the chip manufacturing process was relatively cheap – the most expensive raw material is sand – the research and development costs were enormously high, as was the cost of building new and state-of-the art fabrication plants. This kept computer sales limited to large businesses and research facilities, and prevented growth in sales volume and computing power from truly escalating. Noyce concluded that computer chips could only be efficiently produced in mass quantities that would far better cover the fixed costs of development, but selling these chips in mass quantities required giving computers mass appeal.[166]

Intel in the late 1970's and early 1980's consequently encouraged computer manufacturers, particularly IBM, to sell personal computers to the consumer market to boost sales volume and lower costs.[167] From this development, computers started to become household appliances, still growing in power exponentially, but also to be found in one out of every two houses in the U.S. in the year 2000.

A current goal for developers is to create machines that can actually simulate real thought as a tool to aid decisionmakers. A neural net is a construct that allows a computer to learn from interactions with either a person or another system by following a program with one or two basic rules for completing a process (such as gathering information from a database or computer network). The neural net starts almost at ignorance and uses its "teacher" which may be human, a computer program, or another, more mature neural net, to learn desired outcomes and avoid those which are undesirable.

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[166] Ellickson, pg 12.
[167] Kurzweil, pg. 69.

As a consequence the neural net over time organizes itself to provide the right answers or to take the right actions without coaching.[168] A web browser or information search engine based on neural net technology will use broad parameters at first to cast a wide net for data or analysis based on simple directives. Users of the system over time can teach the system their preferences and goals for seeking out data, analysis, or web-based content, making the system more and more effective.

These tools are already being implemented on the World Wide Web. Portals on the Internet such as Yahoo and Excite offer search engines that are becoming more effective at locating material on the Web. Intelligent agents, sometimes called *knowbots*, are already being used in these services and promise to be even better in locating and aggregating customized information. [169]

The Telecommunications Revolution

Computer technology would not be able to bring about a revolution of information without the conduits for information transmission. The antecedents of the current communications technology go back to the telegraph and telephone developed in the 19th century. Progress in telecommunications communication did not explode with the boom in computers because the two technologies were initially incompatible. The telephone system had existed for decades and was well established when computers were just starting to be developed, and networking technology to connect the basic computers was not considered until the 1970's for the following reasons.

- As opposed to computers which were always digital systems, early telephone equipment was mainly analog which was a

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[168] Kurzweil, pg. 76.

[169] Center for Science and International Studies, Richard Burt and Olin Robison, project co-chairs; Barry Fulton, project director; *Reinventing Diplomacy in the Information Age,* A Report of the CSIS Advisory Panel on Diplomacy in the Information Age, October 9, 1998, pg. 16.

natural approach for transmitting voices but was not well-suited to computer data which is digital.

- There was insufficient bandwidth in the existing telephone infrastructure to consider connecting computers.
- Service costs were high for prolonged communication necessary for computer-to-computer communication.
- Finally and most importantly, the state-of-the-art mode of data transmission along the phone lines was not well suited for computers since computer data transmission tends to come in short bursts, in contrast to the long transmission intervals associated with a typical conversation..[170]

All of these problems came to be solved just at the time when computing power began to show real effects of exponential growth. The cost of transmitting data between the years 1955 to 1975 dropped by a factor of 100 (while computer price/performance during that period improved one thousandfold). The deregulation of the telecommunications industry and the break-up of AT&T in the early 1980's further reduced the price of communications service to finally make networking of computers cost-feasible over telephone lines. Another vital factor was the telecommunications industry in the 1970's converting their systems from analog to digital transmission – another benefit made possible by the invention of the integrated circuit. The advantage of the integrated circuit for communications is that handling voice and data communications digitally requires robust processing power and computer memory; a commitment feasible only when those devices are cheap.[171]

The most significant contribution of all was born in 1962 at the RAND Corporation when Paul Baran invented the concept of packet switching – sending information in evenly spaced bundles over phone lines – as a means to connect the

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[170] Ellickson, pg. 32.
[171] Ellickson, pg. 33.

military command and control network in case of nuclear attack. The Defense Advanced Research Projects Agency (DARPA) in 1969 invested in this technology and subsequently funded the first large-scale test that resulted in the first node installed at UCLA (RAND received the seventh node, overall). "Because of the decentralized structure of the ARPANET and a telephone network in place to support it, expansion was easy and the number of nodes grew rapidly within the military and civilian control centers of the government. ARPANET in 1983 broke off the military parts (which became MILNET) and the nonmilitary part grew into what is known today as the Internet."[172] Just as with the growth in computing power over the past 60 years, the growth in networked computers has been exponential since the ARPANET first went on line in 1969. The growth rate may have slowed recently but still doubles every 12 to 15 months.[173]

As a medium for transmitting information, "the websites that provide audio and video on demand will become tomorrow's primary source of news and information." Over 36 million Americans are reading news on the Internet at least once a week, a threefold increase in two years, according to the Pew Research Center.[174]

The Effects of the Information Revolution on the Market for Information

The major effect of this explosion in technology is the proliferation of information consumers and providers. Their numbers will increase as the cost of Web connections and other information sources drops and the efficiency and power of the connections increases. The growing number of information providers will have to compete for

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[172] Dewar, pg.6.
[173] Dewar, pp 3-6.
[174] Burt and Robison, CSIS, p 18-19.

business and will most likely continue to improve their service and the quality of information they can deliver. Policymakers will need to understand the interactions between information sellers and information consumers in order to get the best support. Simultaneously, the intelligence community will need to understand how these interactions operate because intelligence analysts will find themselves in competition with new information sources for policymakers' attention. These interactions will take place in what is being called the "information economy" and it opens up a host of new opportunities and potential problems for the intelligence community and policymakers alike.

The Information Economy

The market for information products over the next ten years will grow and the spectrum of available information will expand for anyone with access to a networked computer or network-computing appliance. Bandwidth costs will continue to fall enabling web-viewers around the world to easily access billions of websites. Most of these sites will be equally accessible and viewers will develop criteria based on their personal preferences and styles as described in Chapter 2, but the major criteria for choosing information sources will include technical excellence, content, and trust. Secondary criteria will include factors such as timeliness, ease of user interface, and customer support.[175] Formats for information transmission such as multimedia, hypertext, three-dimensional imagery and virtual reality will create opportunities for presenting information in ways that are impossible using paper alone. Digital electronic

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[175] Burt and Robison, CSIS, p 18-19.

versions of information are already increasingly supplanting paper records.[176]

Information users will feel simultaneously empowered and frustrated. The empowerment comes from the ability to research almost any topic or follow almost any event from home. The frustration will come from a phenomenon known as "information overload" which occurs when users find it difficult to find and assess the validity of specific information they need among "the ever increasing worldwide storehouse of information and continually proliferating information repositories."[177] However, these unmet user needs will lead directly to a wide spectrum of opportunities for 'information "middleman" services which can:

- Conduct informed and efficient searches and direct users to the specific information they need.
- Assess the validity for this information, in part by consulting multiple corroborative sources.
- Fuse information from a variety of sources and create a value added information product focused on the user's specific needs.
- Do all of the above while keeping up-to-date on the continually proliferating information repositories throughout the world.[178]

The market place for information however – with or without information middlemen operating to sell or direct information to users – will have some distinct aspects that will define a new kind of economy. This "information economy" values *attention* as the scarce good to be valued and sought after. This market will most affect the intelligence community in its mission to support policymakers, and most affect policymakers in their search to relieve uncertainty in making policy decisions.

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[176] Ibid, pg. 6.
[177] Ibid, pp 10-13.
[178] Ibid, pg. 13.

The Role of Attention in the Information Economy

One of the major points in Chapter Three is that policymakers have scarce time to devote to gathering and assessing information, even though that information is vital to their decisionmaking process. Ambassador Robert Blackwill states that a policymaker's time is too valuable to waste on anything less than the most vital and informative information. A policymaker will *pay* attention to sources of information when he or she needs to mitigate uncertainty to make a decision, but the policymaker will pay it out in small amounts – *saving* time – in order not to waste it.[179]

Michael Goldhaber in "The Attention Economy: The Natural Economy of the Net" defines in economic terms how a decisionmaker will make these choices. Goldhaber writes

> if the Web and the Net can be viewed as spaces in which we will increasingly live our lives, the economic laws we will live under have to be natural to this new space. These laws turn out to be quite different from what the old economics teaches, or what rubrics such as "the information age" suggest. What counts most is what is most scarce now, namely *attention.*[180]

As the accessibility to information becomes ubiquitous, the competition for attention will become fiercer. Providers who innovate are more likely to develop reliable clients while those who stagnate are likely to be left behind and marginalized. Because of the need to innovate, organizations may begin to break down and individuals may rise in importance.[181]

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[179] Jack Davis, Interview with Ambassador Robert Blackwill, *Studies in Intelligence*, 1995, Volume 38, Number 5, "A Policymaker's Perspective on Intelligence Analysis," (Central Intelligence Agency, McLean, VA)

[180] Michael H. Goldhaber, " The Attention Economy: The Natural Economy of the Net," keynote address at the conference "Economics of Digital Information," hosted by the Kennedy School of Government , Harvard University, Cambridge, MA, January 23-26, 1997; speech can be accessed at website http://www.well.com/user/mgoldh.

[181] Goldhaber, http://www.well.com/user/mgoldh/.

As information providers become more specialized and more competitive, "organizations will diminish in importance at a rapid pace, relative to the importance of the individuals who are temporarily in them." RAND as an institution, for example, may become less relevant compared to any single analyst who has developed a deep expertise, has developed a strong and deep client list, and markets his or her expertise effectively. That individual, as opposed to the organization, has captured the attention of clients and this represents a change from the days when the institution itself was what held the attention of an information consumer or decisionmaker. Goldhaber uses as an example "even as stable and long-lasting an institution as Harvard will be less familiar for its buildings and more for the people in the buildings, and the networks of attention among them. And whether these people are physically at Harvard or somewhere else will matter less and less, until the institution loses all coherence, all distinctness from other universities or from any one of hundreds of other organizations which have audiences in common."[182] The clear implication for the intelligence community is that individuals with expertise will be valued for their information, and those individual experts will proliferate, may move regularly from one organization to another (or simply market themselves as individuals), and make their expertise easily available to anyone with access to a personal computer, a television, a palm-sized computer, or just a cellular phone."

New Modes of Information, Suppliers and Consumers

The technological advance of the information revolution is not any explosion in the amount of information – the technology has not "created" any information – but from

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[182] Ibid.

the technological innovation of offering immediate access to the information that already exists. Journalists from any location in the world can report ongoing events in real time, offering streaming full-motion video with analysis. They can broadcast their report over the airwaves or through cable television, or directly to the World Wide Web (WWW). Other information suppliers using the Web can distribute the latest information from databases and other information repositories as events take place, or in immediate response to most information requests. Information itself may not have changed, but improved information infrastructure has vastly increased the ability to store, retrieve, sort, filter, and distribute information, thereby greatly enhancing the value of the underlying information itself.[183]

Moreover, the expansion of the following specific types of information have created new virtual networks that increase any individual's ability to draw information and develop expertise on almost any issue.

- Global chat rooms.
- Real-time video conferencing and video broadcast from any connected computer desktop.
- Truly collaborative online work environments where any individual can participate in problem solving.

Some of these virtual networks are centered about technology itself but many are not, and networks now exist for almost any issue of discussion that can be conceived. One virtual network particularly well know to U.S. policymakers in the Office of the Secretary of Defense is known as "Johnson's List" which delivers via e-mail essays, opinions, and breaking news on foreign and domestic affairs in Russia. The existence of these kinds of networks of interest and expertise is not new, but what is new is the universal availability

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[183] Shapiro and Varian, pg. 9.

and access to these networks through the Internet.[184]

Effects of the New Market

The consequence of this explosion of available information is that traditional leaders in many information markets are at risk of losing their leadership positions. New technologies vastly reduce the cost of creating or distributing information that has been the mainstay of established information organizations. Even in circumstances where an incumbent information service remains the sole supplier of certain types of information, the threat of entry by look-a-like information providers is very real.[185] The intelligence community that historically held a leadership position in supplying policymakers with information now must compete with newer, potentially more advanced and sophisticated suppliers of data and analysis. To paraphrase Varian and Shapiro, intelligence officials who believe their position is unassailable from competitors should remember the following words: CP/M, WordStar, Visicalc, Lotus, and WordPerfect. Each of these at one point held a dominant position in its market, and the firms that produced each assumed their position was unassailable. None of them responded to competition when it arose and now none of them is a significant player in its market. Those enterprises failed not only because they ignored the competition, but because they ignored newer technologies which gave their competitors unexpected advantages.[186]

Technology now available to the intelligence community's competitors will enable all kinds of information providers to offer new products and services with very competitive strategies. Two-way communication offered through the Web greatly

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[184] Ibid, pg 30.
[185] Ibid, pg 30.
[186] Ibid, pg 31-33.

increases the opportunities for information providers to learn about their customers. Web-based information providers can observe the online behavior of their clients and use learning algorithms to increasingly tailor future service in sophisticated ways.[187] The more tailored the information product, the more the information consumer will value the service because tailored products save the consumer scarce time and attention.

Information providers will also be building brand loyalty from early ages of their clients' first experiences on the Web that is an advantage against which government information providers cannot compete. A policymaker in the near future may come to office having used the Internet portal Yahoo for 10 years as a prime information service; he or she almost certainly will have never used products from the intelligence community for anything.

The service provider relies on a high cost to the consumer of switching from a familiar service to one that is new and unfamiliar. These are called *switching costs* and are incurred through the physical costs of changing hardware and software, but also in lost productivity and down time while the consumer becomes familiar with the new technology. To exacerbate the high costs of switching systems, providers will aggressively price their services and make incremental changes to differentiate their product – such as by offering a distinctive user interface – which only make it harder to use less familiar, competing services.[188]

None of these factors would really matter to the question of how information age technology is affecting how policymakers access information, ***if*** policymakers had

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[187] Ibid, pg 34-36.
[188] Ibid, pg 44-47.

unlimited time to react to events, deliberately gather information from all sources, and contemplate different courses of action. Because of the information revolution, however, policymakers not only have to deal with the explosion of available information, but have to manage in unfamiliar environments and make their decisions in ever-shorter time cycles. This new environment may have changed policymakers' information needs so much that the intelligence community may no longer be able to effectively support the creation of U.S. foreign policy. However, to examine this issue requires a better understanding of the intelligence community's major effort to implement information age technology in the way it supports policymakers with information.

The Intelligence Community's Information Age Efforts

The intelligence community, in grappling with the information age, has had to deal with an internal and external environment. Internally, the intelligence community has had to try and adapt to information age technology in how its agencies collect and then process and analyze data. This dissertation does not examine these classified methods and tools of collection and analysis, but instead looks at how the intelligence community has tried to use information age technology in its external relations – transmitting intelligence analysis to policymakers.

The intelligence community's solution to respond to the pressures of the information revolution has been to create Intelink – a system that DCI James Woolsey and Deputy Secretary of Defense John Deutch authorized in 1994, jointly declaring it as "*the* strategic direction for all intelligence community 'finished intelligence' dissemination systems" (a copy of the original authorizing memo can be seen in Appendix B). Intelink is a secure, private collection of computer networks implemented

on existing government communications systems that allows electronic publishing and distribution of multimedia intelligence – as opposed to messages or reports printed and delivered on paper. The network is designed to provide policymakers with near real-time access to all available intelligence on a particular topic no matter from what agency it originates, and no matter where the user is located (as long as they have access to an Intelink terminal). The system operates similarly to the World Web, employing standard WWW-technology, using well-established networking protocols, and protected by firewalls to prevent unauthorized, external use. The major difference between Intelink and the public WWW is the web pages carry classified intelligence and are accessible only to government organizations cleared to use the system, (an unclassified, demonstration copy of the Intelink homepage can be found in Appendix B).[189]

Intelink was created to connect the intelligence community to the policy and military communities to "provide robust and timely access to all available intelligence information, regardless of location, medium, or format, for all interested users ... who are authorized access."[190] The community of users with access spans a broad spectrum ranging from the uniformed military to Cabinet agencies such as the Departments of Defense, Treasury, Energy, Justice, State, and Transportation, and the National Security Council and the White House.[191] Intelligence agencies all have their own home pages on the network and any user with the access can browse or "surf" the network using a standard WWW browser such as Netscape Navigator or Microsoft Internet Explorer.[192]

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[189] Frederick Thomas Martin, *Top Secret Intranet: How U.S. Intelligence Built Intelink – The World's Largest, Most Secure Network*, Frederick Thomas Martin, Prentice Hall, Upper Saddle River, NJ, 1999, Foreword (emphasis mine).
[190] Ibid, pg. 6.
[191] Ibid, pg. 25.
[192] This information comes from personal experience in using the classified system as part of research for this dissertation.

The Purpose of Intelink – Respond to Information Age Pressures

Intelink was created precisely to respond to the effects of the information revolution explained in the previous chapter. Frederick Thomas Martin, one of Intelink's developers, writes that the intelligence community in the early 1990's realized that "for intelligence to be useful in this environment, it must be able to compete in some way to add value to the stream of external information reaching U.S. officials. The Intelligence Community [was] facing a need to operate with a shorter cycle time because policymakers needed to operate in shorter cycle times." Specifically, Intelink was designed because the senior leadership in the intelligence community understood that today "greater speed in intelligence is demanded by the pace of world events and global information services." This pace is so rapid that US policymakers need constant, up-to-date information in highly tailored, useful formats so they can "continually reevaluate [changing] situations."[193]

Dr. Ruth David, former Deputy Director of Central Intelligence for Science and Technology, recognized that to be able to work within these shorter time cycles, intelligence agencies needed new thinking. She writes that in the early 1990's,

> the many independent agencies that make up the U.S. Intelligence Community [were] being drawn toward the concepts of an "Agile Enterprise." These concepts were born in the private sector ... to speed up internal operations and derive competitive advantages from ... widely distributed expertise and institutional knowledge. The business imperatives were to be first-to-market with new products, to be faster in responding to customer requests, and to create solutions more tailored to each customer's needs....[194]

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[193] Ibid, FOREWORD.
[194] Ibid, FOREWORD.

For the intelligence community, this translated into the ability to get the best information fastest, and then analyze and disseminate it to policymakers in a shorter time cycle than had been possible ever before. A classified intranet with virtually instantaneous connectivity between intelligence officials and policymakers seemed to be the perfect solution.

Intelink in Practice – Falling Short

Despite the intent of DCIs Woolsey and Deutch, the system has not become the future direction for all intelligence dissemination, nor, according to policymakers, has it significantly helped the community become more like an "Agile Enterprise" in serving the civilian, national level policy community. In fact, most civilian, national-level policymakers do not use Intelink when they have a need to access information, according to the senior policymakers and intelligence officials interviewed for this study. The data presented in this section comes from documented interviews with over two-dozen high level, civilian policymakers who work on national level foreign policy, ranging from the level of Deputy Assistant Secretary to Undersecretary, and their equivalents, at the Departments of State, Treasury, Defense, and the National Security Council. One-dozen mid- and high-level intelligence officials also contributed data to this section including the former director of one intelligence agency, and a recently-retired, very senior official in the Intelink program office. The data from these interviews is supplemented with facts from Franklin Thomas Martin's seminal work on Intelink: *Top Secret Intranet: How U.S. Intelligence Built Intelink – The World's Largest, Most Secure Network.*

Intelink has not reached its potential for several reasons, the first of which comes from no fault in the system itself – some policymakers simply prefer not to access

information from a computer, preferring instead briefings, paper copies of reports and messages, or even communication with peers and experts via video teleconference or the telephone. As one notable example, Clinton Administration National Security Advisor Sandy Berger did not have a computer in his office in the West Wing of the White House. According to a senior White House Situation Room intelligence officer, Dr. Berger had the strongest aversion to using the computer as much as possible.[195] One Undersecretary of Defense suggested this kind of preference was a generational issue and would certainly change over time as future-policymakers raised from early childhood with computers and the Internet begin to take leadership roles in government. In the present, however, it certainly presents one partial explanation why some policymakers might not use Intelink. If this is the case, however, the WWW and e-mail would also have marginal value in supporting policymakers. The following chapter will show this is not the case.

A greater complication is that intelligence agencies do not store information on Intelink that is easily accessible to most policymakers. Intelink was created in the following versions:

- Intelink-SCI
- Intelink-S
- Intelink-Policynet[196];

but while the greatest volume of intelligence data and analysis is stored and accessible on Intelink-SCI, relatively few policymakers have access to that network. Far more policymakers (the exact numbers are classified) have access to Intelink-S but intelligence

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[195] Seen during a private tour of the White House Situation Room and West Wing and interview with a senior Situation Room officer.
[196] There are additional versions of Intelink, and other classified networks for sharing intelligence, but they are not relevant to this study and will not be discussed here.

agencies store very little or no information there.[197]

Each version of Intelink offers a different level of access to users. Intelink-SCI is the system with the most restricted access. The acronym "SCI" stands for "Sensitive Compartmented Information" which means, among other things, that information stored on Intelink-SCI is accessible to a more restricted group of decisionmakers than have access to Intelink-S. The SCI network can carry information classified as high as TOP SECRET-SCI and access is granted through the Department of Defense secure network named the Joint Worldwide Intelligence Communication System (JWICS). The Intelink-S network is restricted to carrying information classified no higher than SECRET – a less restricted and less-tightly controlled level of access – and is provided to intelligence users through the "Secret Internet Protocol Router Network," or "SIPRNET."[198]

Intelink-Policynet (or Intelink-P) no longer exists but was a network which went operational in 1995, was managed and operated by the CIA, and was designed specifically to support high-level U.S. government policymakers, providing them with multimedia intelligence products containing extremely sensitive, "compartmented" information, not available through any other class of Intelink service. Intelink-P was discontinued for several reasons, most notably because it was seen as redundant with Intelink-SCI.[199] Consequently, policymakers today generally only have access either to

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[197] The facts on Intelink presented here are not just individual anecdotes coming from unrelated sources, but are highly corroborated accounts offered by numerous senior policymakers, and intelligence officers ranging from the level of analyst to former very senior official in the Intelink Program Office to current-Director of an intelligence agency.
[198] Martin, pg. 53-54.
[199] Ibid, pg. 54-55, and personal interviews with senior officials in the Intelink Program Office within the Department of Defense.

Intelink-SCI, or Intelink-S, although the SECRET version is far more prevalent than the more restricted SCI version, and there lies the heart of the problem.[200]

Intelligence agencies store a good deal of information on Intelink-SCI but release almost no intelligence on Intelink-S. Browsing the homepages of intelligence agencies on Intelink-S leads to nothing but dead links and blank pages.[201] There is valuable intelligence to be found on the SIPRNET (which is the backbone that carries Intelink-S), as many active duty military officers are quick to point out, but intelligence agency web pages on Intelink-S have no intelligence analysis nor any unprocessed intelligence reports posted – and this is where civilian, national level policymakers search for data. According to active and retired intelligence analysts and senior intelligence officers, intelligence community managers today believe that disseminating intelligence on Intelink-S carries too great a risk of seeing the information leaked because the number of Intelink-S terminals in policy agencies and military installations around the world is so large. The agencies believe that making the information available to so large a potential audience makes it impossible to control access to it.

Furthermore, intelligence agencies have vested incentive in not posting intelligence on Intelink because one of the primary means of interaction these agencies have with policymakers comes through hand-delivering classified reports and giving briefings in-person. This is particularly true for the Defense Intelligence Agency (DIA) and policymakers in the Pentagon. Posting intelligence on Intelink-S might marginalize

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[200] To reiterate, there are other versions of Intelink but they are generally not available to civilian, national-level policymakers, were not available to any of the civilian policymakers interviewed for this study, and will not be addressed in this study.

[201] RAND has access to the SPRNET and to Intelink-S. In several hours of extensive browsing, an Air Force Master Sargeant and I found virtually no intelligence posted on the web site of any intelligence agency. We searched on terms including "India," "Pakistan," "Proliferation," "Non-proliferation," "Serbia," "Kosovo," "Serbs," "Yugoslavia," "WTO," and "World Trade Organization." Any one

the role of large numbers of intelligence briefers and related personnel and this is an outcome the intelligence agencies want to avoid, according to numerous senior intelligence officials and civilian policymakers.

Intelink does have tremendous utility, however. Military officers do use the SPRNET and Intelink-S extensively to exchange various forms of information between collectors, analysts, and information users, but this is done between military units. Most civilian policymakers are unaware of it. Military officers share information in Intelink "communities of interest" – either chat room-type environments or bulletin boards where they can post data and analysis, but access to these is restricted on a need-to-know basis. While all policymakers interviewed for this study stated they would be interested in gaining access to these sites, they had been unaware of their existence and did not know where to ask for permission, let alone the electronic addresses for the sites themselves. Even were civilians given access to these site, an additional complication is that the topics found in these communities of interest may be so detailed – appropriate mainly for military operators deployed around the world – that they would likely be too specific and narrow ("in-the-weeds") for national-level policymakers.

This leads to another problem for policymakers which is that the intelligence community provides little or no Intelink training or familiarization, nor does it offer any kind of directory for sites on the network that would carry valuable information.[202] Policymakers repeatedly claimed that intelligence officials told them the network was identical in usability to the public WWW and they would need no instruction. Those

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of these terms is so relevant to U.S. foreign policy that numerous hits should have turned up in a keyword search.

[202] Such a directory may, in fact, exist, but if it does, the policymakers interviewed are unaware of it.

policymakers with Intelink-S terminals who venture on their own to search the system claim they go first to the Agency web sites, find no information at all, usually become quickly frustrated, and log off with the impression the intelligence agencies do not store information on Intelink.

Junior-level intelligence officials consistently repeated the concern about the cultural difficulties of merging WWW technology – which is about openness and sharing information – with the intelligence culture that is about jealously guarding and protecting information. Martin writes that even before Intelink began operations, the DCI needed to waive a long time intelligence community practice of "disseminating information on a 'need to know' basis – that is, only to those who were both approved and deemed to actually need the information to perform their job." The intelligence community leadership may have created the tools and medium for greater information sharing with policymakers but it appears that the community itself has basically rejected the system for many civilian policymakers.[203]

Some in the intelligence community argue that posting newly published intelligence on Intelink-S would require too heavy a demand in resources and personnel. However, according to a retired, very-senior official in the Intelink program office, posting a document to any version of Intelink literally takes seconds and could be performed by anyone in an administrative or clerical position. All written intelligence is produced today on a modern word processing software program, most likely Microsoft Word or possibly Word Perfect. Posting a document on Intelink is a function of saving any document file in hypertext markup language (HTML) format and uploading it to a

server – a process that requires only a few computer key strokes or clicks of a computer mouse. It is unrealistic to believe any clerical worker would need more than two hours per day to upload all the CIA's finished intelligence from the day before, or space out two hours of work per day to upload intelligence immediately as it is released. Alternatively, if each office within each agency were able to post its own reports on Intelink, the demand in resources to populate Intelink with data and analysis would equal only a handful of minutes a day for one person from each office. Consequently, senior intelligence officials involved with the management of Intelink assert that manpower, time or resources cannot be a factor. Additionally, if time and manpower were a factor, it would not explain why Intelink-SCI *does* carry a large volume of recently published intelligence, but Intelink-S does not. Ultimately, policymakers would be far better served by the intelligence community if agencies could find an effective way to post information to Intelink-S with a better level of control over the distribution of the information.

The Impact of the Information Revolution on the Intelligence Community

The conclusion from this data is that in its ability to deliver intelligence to policymakers, the intelligence community has not adapted well to the information revolution. In other areas such as internal communication, intelligence collection, and administration, the community may have adapted information age technology far better, but not in the area of supporting policymakers with data and analysis.

The community created and installed Intelink but it has not well supported Intelink-S which is the version that most policymakers can access. Policymakers repeatedly claim there is no information posted on Intelink, gaining this impression

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[203] Martin, pg. 53-54.

because they tried accessing intelligence agency home pages and found nothing of relevance. Almost all policymakers still receive most of their intelligence either in paper form, or in personal briefings by intelligence officers. The conclusion must be that while Intelink has existed since the mid-1990's, it has yet to reach the goal posted by DCI Woolsey of becoming the future of intelligence dissemination (at least for civilian, national level policymakers). The next question to be addressed is how well the agencies of the policy community have adapted to the information age.

The New Information Environment for Policymakers

The effect of the information revolution on the policymaking environment has an internal and an external component as well. The external component encompasses the international arena where foreign policy events take place. The information revolution has changed the way those events take place and subsequently the way policymakers must react to those events. Working within this environment are the foreign policymaking agencies of the U.S. government that form their own component – an internal environment. The internal component to the environment is the arena in which policymakers work. This component is heavily affected by the way information age technology has or has not penetrated these agencies or departments. Both components affect the overall impact of the information revolution on policymakers.

Enviroment for Policymakers
External:
- International Environment

Internal:
- Agency Environment

Figure 4-3

The External Environment

The relations between nations are changing because of the evolving networked

economy, the growth of democracies, and increased connectivity among peoples.[204] Burt and Robinson in the Center for Science and International Studies (CSIS) report *Reinventing Diplomacy in the Information Age* describe several structural features of this new environment. The most important feature of the new environment is *speed* and it effects all the following effects as well. Policymakers need to move quickly to respond to events in real time as they take place because increased interactivity means changes will take place in shorter time intervals.[205] The best example of this is the "CNN Effect" brought about by Ted Turner's Cable News Network (CNN). The CNN Effect describes policymaking that must be performed in rapid reaction to events that are being broadcast live. In effect, the media "drives" the policymaking process by delivering information to a global audience and making a big enough impact on the populace that they demand action from their government.[206]

The next feature is *interactivity* that creates unintended and often unpredictable consequences from seemingly isolated actions. Connecting all the world's major industries, governments, and other major actors through the global information grid of the Internet brings them all into contact. Each is notified of the other's actions in almost real time, creating a system of interactions too complex to predict or understand. Speed is a multiplier of this effect because the virtually instantaneous communications of the information revolution only increases the impact of interactivity.[207]

Policymakers felt the impact during the Gulf War and later when U.S. troops had

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[204] Richard Burt and Olin Robison, Center for Science and International Studies (CSIS), pg. 42.
[205] Johanna Neuman, Lights, Camera, War: Is Media Technology Driving International Politics? New York: St. Martin's Press, 1996, p. 14.
[206] Richard Burt and Olin Robison, Center for Science and International Studies (CSIS), pg. 17.
[207] Ibid, pg. 30.

been involved in Somalia. Then-U.S. Ambassador to the United Nations Madeleine Albright told the Senate Foreign Relations committee at the time "television's ability to bring graphic images of pain and outrage into our living rooms has heightened the pressure both for immediate engagement in areas of international crisis, and then immediate disengagement when events do not go according to plan."[208]

The proliferation of *new actors* and *unfamiliar actors* is the third feature of new information environments. National governments, international business, NGO's, universities, and the interested public are now equally powerful actors in foreign affairs and this fact is amplified by the media. Protests in Seattle by loosely organized activists, armed only with information and mass communications fueled by the Internet, changed the course of talks between members of the World Trade Organization in 1999, largely to the surprise of delegates and national governments around the world. Groups such as these will only grow in power in the future.

Feedback is the fourth new feature of the environment and it comes from the flow of relevant and accurate information delivered to policymakers through traditional transmission channels and through information age channels as well. Policymakers have traditionally used public opinion polls and other mechanisms to gauge the positions of constituents, foreign governments and international actors, but the explosion of information conduits could conceivably give every affected actor or agency a venue for

Features of the External Environment
1. **Interactivity**
2. **Speed**
3. **Proliferation of new, unfamiliar actors**
4. **Feedback**

Figure 4-4

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[208] Ibid, pg. 17-18.

sending feedback to policymakers about any specific policy or decision."[209]

The Internal Environment

What might create the biggest confusion for U.S. policymakers is that as much as the external environment has increased in complexity, the internal policymaking environment in some cases has not changed at all from the way it processed and filtered information prior to the information age. Admiral William Owens (U.S. Navy, retired) and Harvard professor and Dean of the Kennedy School of Government Joseph Nye writing in the journal *Foreign Affairs* assert the U.S. information edge has the potential to be a "force multiplier of American diplomacy" and yet policymaking agencies may find themselves not properly equipped to take best advantage of information age technology.[210] Burt and Robinson of CSIS concur that "American diplomacy today is at severe risk because it does not have the modern technology it needs to do its job." The Department of State, for example, through the end of the year 2000 did not equip its diplomats with the Internet connections for e-mail or access to the WWW – both of which must be considered necessary tools for gathering, processing, and disseminating information, "and for communicating effectively with an increasingly democratic world."[211]

It is no secret that the State Department's information technology is obsolete. Madeleine Albright so testified at her confirmation hearings in 1997, asserting the State Department's computers and telecommunications networks are insufficient to keep U.S. diplomats informed. In spite of the tens of millions of dollars spent in infrastructure

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[209] Ibid, pp 31-32.
[210] Joseph S. Nye, Jr. and William A. Owens, "America's Information Edge," *Foreign Affairs*, March/April 1996, p.20.
[211] Richard Burt and Olin Robison, Center for Science and International Studies (CSIS), foreword.

modernization over the last few years, she stated "the task ahead is staggering."[212] The State Department's Undersecretary for Management Bonnie Cohen in Senate testimony in 1998 stated that "the significant decrease in resources allocated to the State Department since the end of the Cold War has left us vulnerable and less prepared to carry out diplomacy in the information age."[213]

Writing to then-Secretary of State Warren Christopher in an open memo, technology consultant Joshua Shapiro in 1995 accused the State Department of "approaching the 21st century equipped with tools barely more sophisticated than when [the Secretary's] cabinet position was established in 1789. As one department staffer simply, damningly put it: 'the situation is dismal.'"[214]

The effects of the lag in adopting technology will hamper policymakers' ability to stay informed. An internal memo out of a U.S. embassy in Western Europe claims that

> "it is increasingly, painfully apparent that [the section] cannot effectively support the Ambassador and fulfill its duties in policy formulation and implementation with our *current 1970's technology*. We're *de facto* cut off. We do not have access. It's only going to get worse if we sit still. The world will change whether we like it or not.[215]

As a consequence, "practically every American diplomat, in Washington or abroad, is experiencing information isolation."[216]

The lack of sophisticated technology hampers policymakers in several ways. Diplomacy takes longer, is less successful, and in the near term might become simply

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[212] Madeleine K. Albright, prepared statement before the Senate Foreign Relations Committee, January 8, 1997.
[213] Bonnie Cohen, Senate Task Force on Function 150, September 17, 1998.
[214] Joshua Shapiro, "Warren Christopher: Read This," *Sky*, September 17, 1998.
[215] Internal memo from an American Embassy in Western Europe, 1996, reprinted in Burt and Robinson, CSIS Report, pg. 41, (emphasis mine).
[216] Burt and Robinson, pp 40-42.

impossible without state-of-the-art technology. Joe Nye and Admiral William Owens (U.S.N, ret.) write that "the State Department and allied agencies are still operating a secure, proprietary network which is too slow for modern communications. Wang word-processors, left over from the seventies, are still being used in many embassies" (although no longer prevalent in most offices at the State Department headquarters in Washington, D.C.)[217] Ignoring modern technology denies U.S. policymakers the advantages of the analytic, search, communications, and networking tools that are now available. Using the State Department as an example, based on published accounts is not sufficient to draw conclusions about the policy community overall. To make such conclusions requires extensive primary interviews and investigation of each agency, as found in the next section of this chapter.

Policy Agencies And The Availability of Information

Policymaking agencies provide the infrastructure through which policymakers access information. An organization can enable a policymaker to search for information on multiple sources, or constrain him or her to searching only the most rudimentary sources. On this level of analysis, policymaking agencies within the U.S. government vary greatly in the support they offer.

The Organizational Level – Policymaking Agencies

This section details how the following organizations enable or constrain policymakers from accessing information.

- The National Security Council;
- The Department of the Treasury;
- The Department of State; and
- The Office of the Secretary of Defense.

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[217] Joseph S. Nye, Jr. and William A. Owens, "America's Information Edge," *Foreign Affairs*, March-April 1996, pp. 20-36.

Of the four organizations considered, each was evaluated on whether or not it provides its staff with access to information from the following sources.

- Open source publications including daily newspapers, weekly and monthly magazines, and academic and other scholarly journals.
- A 24 hour operations center/watch center which alerts policymakers to vital breaking news on areas of policy concern.
- A library that not only stores books, periodicals, and journals, but conducts searches for customers, either within its own stacks, or within some larger network of other libraries.
- Television, with or without access to Cable News Network (CNN).
- E-mail access through the Internet.
- WWW access through the Internet.
- Intelink access (either the SECRET or SCI version).

All four of the policymaking organizations receive intelligence as part of their daily business in contributing to the formulation of U.S. foreign policy. Senior officials from these organizations contributed data about how each enabled or constrained their access to the different sources of information, and their responses were combined with additional responses from intelligence personnel employed at each agency.

Levels of Analysis
Organizational Level
- Constraints on information

Individual Level
- Personal preferences for information

Figure 4-5

The National Security Council

The National Security Council (NSC), of the policymaking organizations examined, had the best access to information from all conceivable sources. Any Director or Special Assistant to the President who requests a subscription, individual periodical, or publication will have it delivered to his or her desk, and television with cable access is as easily arranged. The NSC has direct and continuous access to a 24-hour watch center – the White House Situation Room – which is constantly manned with watch officers to

alert policymakers of vital, breaking news. Like the rest of the NSC, the Situation Room has complete access to the Internet and the WWW, as well as to the SCI version of Intelink and other classified networks through which watch officers can access the most current intelligence. NSC officials directly receive published hard-copy intelligence on a regular basis and often receive intelligence briefings on any topic they find relevant to their official portfolio. The NSC can video teleconference with any intelligence agency or policy agency, but does not have a library although no official expressed a need for one. The only deficiency NSC officials noted was that their electronic information search engines, for both the Internet and Intelink, do not have very sophisticated filters to screen out superfluous data and analysis.

The Department of Defense

Policymakers in the Office of the Secretary of Defense (OSD) within the Department of Defense (DoD) have periodicals and journals delivered to their offices, and can access the Pentagon library for information and literature searches. Most offices in the OSD have cable television for watching network news and CNN, and are wired for connection to the Internet and WWW. Some offices in the Pentagon have access to Intelink-SCI, but most are restricted to the SECRET version. OSD officials have access to video teleconference facilities for communicating with other policy and intelligence agencies, are regular and frequent recipients of written intelligence, and often receive intelligence briefings, most often from personnel from the Defense Intelligence Agency (DIA). The DIA exists to support defense policy with intelligence and one of DIA's regular responsibilities is to provide live updates and briefings to OSD personnel. DIA also serves as the organization which hand carries all SCI classified material to

policymakers.

The Department of the Treasury

Policymakers at the Treasury Department have access to periodicals, journals, television with cable service, and the Internet. Treasury also has approximately 200 analysts who specialize in regional studies and economic and political issues. These analysts provide direct support to Treasury officials and are vital to policymakers because neither the analysts nor the policymakers have very good access to intelligence. While officials in the OSD have the Defense Intelligence Agency that acts as a filter through which most highly classified material is delivered to policymakers in the Pentagon, Treasury has an Office of Intelligence Support that is more of a choke-point than a filter through which intelligence must pass to get to policymakers. The Office of Intelligence Support is staffed by less than 20 individuals and this low level of staffing seems to be the biggest problem. Half of this office is responsible for manning a 24 hour operations center to alert Treasury officials to breaking, vital events around the world. The other half is responsible for maintaining the Treasury's classified local area networks and when available they serve as the bridge between all of Treasury and the intelligence community.

Virtually all intelligence that flows into the Treasury Department must first go through the Office of Intelligence Support, and this Office is where are located the only Intelink terminals. Policymakers virtually never access Intelink because the location is inconvenient and because they have no idea how it works or how it can help them. Some policymakers at Treasury did not know of Intelink's existence, and almost all stated that neither they, nor the Treasury analysts, operate with support from intelligence because

the Office of Intelligence Support is too undermanned. Even when they have the time, officers in the OIS do not use Intelink because they claim it has nothing of use. When they request or receive a classified intelligence report, it most often comes via classified fax.

The Department of State

The State Department had the least connectivity compared to the others surveyed. Assistant Secretaries of State and higher officials all have periodicals and journals delivered to their offices, and there is a library in the main headquarters building which conducts searches and finds information when an official requests it. Most State officials can access diplomatic cables and embassy reports from their desktops, but at the time information for this study was collected, late 2000 and early 2001, State Department headquarters did not provide policymakers with access to the Internet or WWW. Equally absent was access to cable television, although some State officials brought to the office their own televisions to watch news broadcasts (receiving poor reception through each set's aerial antenna).

Policymakers' do not have direct access to intelligence as access is almost entirely managed by the Office of Intelligence and Research (INR). Virtually all intelligence reports from other intelligence agencies sent to the State Department are delivered to analysts in INR and are then filtered to the relevant policymakers. INR has access to Intelink, both the SECRET and SCI versions, but no policymakers have access to either network. INR analysts often provide intelligence briefings to State officials, as do officers from other intelligence agencies. The key factor at the State Department is that policymakers have almost no access to up-to-the-minute information as do policymakers

at other agencies.

Conclusions From the Organizational Analysis

The four policymaking agencies evaluated here vary strongly in how they support policymakers with information. Supplying information in the information age requires the ability to deliver data and analysis to consumers from the widest possible selection of sources almost instantaneously, and often in real time as events take place. In this regard the U.S. government agencies can be ranked in the following order with the NSC having the done most to integrate information age technology, and the State Department having done the least.

1. National Security Council
2. Office of the Secretary of Defense
3. Department of the Treasury
4. Department of State

The differences between these agencies are significant in how their adoption of information age technology varies between open source information and intelligence. The NSC has done the most comprehensive effort in providing policymakers with both cutting edge access to intelligence through Intelink-SCI, as well as open source information via the WWW. The Office of the Secretary of Defense has done almost as good a job by providing Web access, but providing most policymakers with access to Intelink-S instead of Intelink-SCI terminals has kept them from getting information age access to intelligence. The Treasury Department has done an adequate job with open source giving its policymakers and analysts direct access to the Internet, but a much less effective job in getting them access to any intelligence, let alone through any information age technology. The State Department gives its policymakers the least connectivity to any real time or electronic information as its officials lack Internet connections and the

only personnel with access to Intelink are in the Bureau of INR.

The extent to which these agencies allow policymakers access to different sources in the vast spectrum of available information affects how individual decisionmakers use information in foreign policy events where they need it. Taking the organizational constraints into account, the next chapter examines individual policymakers themselves to ascertain how valuable they find intelligence relative to open sources in the information age. This will determine the impact of the information revolution on policymakers' use of intelligence analysis.

Chapter Five -- The Impact of the Information Revolution on Policymakers

This chapter examines individual policymakers and how they access different sources of analysis in events where they have a need to be informed. Given the traditional role of intelligence in supporting the policymaking process (as illustrated in Chapter Three) and the changes brought about with the information age (as described in Chapter Four), the goal of this chapter is to answer the following two questions.

- Do policymakers still rely on intelligence analysis when they need information?
- In supporting policymakers, what is the role of information-age intelligence analysis relative to traditional forms of intelligence and open source analysis?

Chapter Three is the baseline for how policymakers use information, and that baseline will be compared to how policymakers use information today. The key issue from the Bomber Gap and Missile Gap cases is that policymakers were able to make decisions over months, if not years, while absorbing information about the key policy issues of the day. Over this period of time, the intelligence community was able to develop new sources and methods of collection that were synthesized into analysis, and that analysis gave policymakers information that radically altered their decisions. While major, respected open sources of information were still proclaiming Soviet superiority in strategic weapons in both the Bomber and Missile Gap cases, policymakers were revising their policy decisions based solely on intelligence analysis proclaiming that no such gaps existed. By the time of the Cuban Missile Crisis, the intelligence community had so proved itself that in a span of a few weeks, the President was willing to impose a blockade of Cuba based solely on intelligence analysis.

Chapter Four explains the information revolutions as a function of technological

advances in both telecommunications and computing power. This revolution coincides with the end of the Cold War and a new period of instability in international relations.

Foreign policy events now take place in far faster time cycles than ever before, and the innovative technological advances in information and information dissemination described in the previous chapter may be changing the way policymakers today need information. This chapter will test if the sources and methods the intelligence community uses for its analysis today, coupled with the advanced capabilities of Intelink, still make intelligence analysis the most useful information to policymakers who need information.

Case Selection

Given the efforts of intelligence and policymaking agencies that affect individual policymakers' use of information, the objective of this chapter is to survey policymakers about how they used information in modern foreign policy events, and then evaluate the policymakers' responses to learn the relevance of intelligence and open source analysis – both traditional and information age – in supporting the policymaking process.

A manageable number of individual policymakers responded to surveys for these case studies.[218] Policymakers responded from the same four agencies examined earlier:

1. The National Security Council;
2. The Office of the Secretary of Defense;
3. The Department of State:
4. The Department of the Treasury.

Not all foreign policy agencies in the U.S. government were visited because of the interests of time and available resources.[219]

Senior policymakers from these four agencies were selected based on their

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[218] This section will describe the methodlogical steps taken to collect and analyze data, but the in-depth discussion of methodology is found in Chapter Three, and an analysis and critique of the methodology is found in Appendix C.

[219] The notable exception of the Office of the U.S. Trade Representative for the examination of the WTO Ministerial in Seattle in

involvement in one of the following three major foreign policy events:

1. India's Nuclear Warhead Test (1998);
2. Serbia's Crackdown on Kosovo (1998 – 1999);
3. The World Trade Organization (WTO) ministerial in Seattle, Washington (1999).

These events were chosen because they satisfied several important criteria:[220]

- Each was of major importance to U.S. interests.
- Each event forced U.S. policymakers to make crucial decisions for U.S. interests.
- Each was recent enough for relevant policymakers still in office to remember details of their actions for each event.[221]
- The three cases collectively covered a diverse array of policy issues – nuclear proliferation, regional military conflict, and international economics/free trade.

Furthermore, each foreign policy case centers around a critical event – the Indian nuclear test, the Serb military offensive again Kosovo, and the WTO Ministerial in Seattle – for which policymakers would need information to make decisions. Therefore, each event created conditions where it was possible to learn how policymakers today chose the sources of information they need.

Based on an examination of the three foreign policy events, the four policymaking agencies, and the policymakers who were in office at the time, a list was compiled of senior level (Deputy Assistant Secretaries up to Undersecretaries and their equivalents at the NSC), civilian, national-level policymakers. Individuals on this list were contacted by telephone, electronic mail, and by postal mail to arrange interviews. The objective was to meet with the most senior officials available within time limitations. Any official who agreed to meet and participate in the survey was asked to provide the names and contact information for others who might be interested – a well-known and accepted social science method known as "snowball sampling" (a term coined because one contact

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1999 is explained elsewhere in this chapter, and in the Acknowledgements section in the very front of this document.
[220] Each criterion was vetted by RAND researchers and former, senior policymakers.

leads to another and the set of respondents grows like a snowball rolling downhill).[222] The final tally on policymaker interviews totaled 24 individuals from the Departments of Treasury, Defense, State, and the National Security Council, (although only nine participated in the quantitative survey, described later in this chapter).

The breakdown of the agencies used for each foreign policy event is shown in the following table.

India Nuclear Test	Serbia's Crackdown on Kosovo	WTO
NSC	NSC	NSC
OSD	OSD	Treasury
State	State	

Figure 5-1

Three Agencies were used for the India nuclear test and Serbia's military action against Kosovo, and two for the WTO ministerial in Seattle. Only two organizations were used for the WTO because senior officials in the Office of the United States Trade Representative chose not to participate, which will be further explained later in this chapter in the section on the WTO Ministerial.

The agencies used vary for each foreign policy event. This is reasonable considering that those relevant to the WTO meeting might not be the most relevant for the India or Serbia events, and vice versa.[223] While over two-dozen policymakers were interviewed, three were selected to provide quantitative data for each event. For the Indian nuclear test, one policymaker was chosen from the NSC, one from OSD, and one

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[221] Interviewing policymakers still in office was a practical decision – it was more likely to locate them since they were still in office, and it made data collection possible.
[222] *Social Research Methods: Qualitative And Quantitative Approaches,* Russell Bernard, Sage publications,Inc. Thousand Oaks, London, New Delhi, 2000, pg. 179.
[223] Treasury, for example, was not a key player in making policies for either the Indian nuclear test or the Serbian crackdown on Kosovo, nor was the OSD a primary actor in preparing for the WTO ministerial.

from the State Department. Using the same methodology, three policymakers who were responsible for forming US policy on Serbia – one from the NSC, one from OSD, and one from the State Department – were selected to provide quantitative data for that event. The same practice was used to select policymakers to provide data for the WTO Ministerial.

Data Collection – Preparation

Evaluating how the information revolution is affecting policymakers' use of information involves answering two key questions. In the information age:

1. **What form of information do policymakers want?**
2. **What sources do policymakers access to get that information?**

The answer to the first question was obtained by asking policymakers to rank the attributes of information they needed for each event when searching for information. The answer to the second question requires policymakers to rank what sources of analysis they access to satisfy that need.

Information Attributes

Attributes of information are key characteristics that were derived from numerous business journals and reference books on "e-commerce" of information. A large list was compiled of all the possible attributes and this list was distilled down to the following ten attributes.

1. **Timeliness**
2. **Perception of Accuracy/Reliability**
3. **Ready Availability**
4. **Ease of User Interface**
5. **Speed of Operation**
6. **Flexibility of Use**
7. **Capability**
8. **Features and Function**
9. **Comprehensiveness**
10. **Customer Support from Supplier**

Each policymaker surveyed was given the following definitions for each attribute.

> Timeliness: The measure of the time from when an event happens to when the source can provide the policymaker with the information.
>
> Perception of Accuracy/Reliability: The reputation of a source of information for delivering information that in the past has proven to be accurate and reliable.
>
> Ready Availability: The degree of accessibility of a source of information to a policymaker, or the degree to which the source makes the information available to the policymaker.
>
> Ease of User Interface: The degree to which the policymaker finds ease in using the source's interface to search and access information.
>
> Speed of Operation: The measure of how quickly the source can deliver information once the source is accessed.
>
> Flexibility of Use: The ability of the source to allow the policymaker to store, duplicate, or in other ways use and keep the information.
>
> Capability: The qualitative measure of the tools or utilities the source offers the policymaker to better facilitate using the information.
>
> Features and Function: The quantitative measure of how many tools or utilities the source offers the policymaker to better facilitate using the information.
>
> Comprehensiveness: The breadth of coverage a source offers the policymaker.
>
> Customer Support from Supplier: The degree to which an information provider will help a policymaker solve difficulties in using the source.

Policymakers were asked to rank the importance of these attributes to them at two distinct time periods specific to each foreign policy event. These time intervals will be explained later in this chapter.

Sources – Forms of Information Dissemination

After ranking these attributes of information, the same policymakers then ranked the usefulness of the following sources of analysis, again at the same two distinct time

periods specific to each foreign policy event.

1. **Telephone/Personal Conversations**
2. **Print Journalism**
3. **Radio**
4. **Television**
5. **Electronic Mail (Unclassified, via the Internet)**
6. **The World Wide Web**
7. **Intelligence Briefings**
8. **The *National Intelligence Daily (NID)***
9. **The *President's Daily Brief (PDB)***
10. **Other Daily Intelligence Publications**
11. **Other Ad Hoc Intelligence Reports**
12. **Intelink-SECRET**
13. **Intelink-SCI**

This list of sources was compiled from several sources, including interviews with former policymakers and their staff members, as well as the CIA publication *A Consumer's Guide to Intelligence*. The list was compiled to be a comprehensive list of traditional and information age sources of intelligence and open source information.

Explanations and definitions were given to every policymaker interviewed and while most are self-explanatory some need to be clarified. Telephone/Personal Conversations encompasses all direct vocal communication a policymaker could have with any individual, classified or unclassified. Television included major network news as well as cable TV, most notably including CNN. Intelligence Briefings are direct, personal briefings given to policymakers by intelligence officers from any of the intelligence agencies, but most often from the Central Intelligence Agency and the Defense Intelligence Agency. As explained in Chapter 2, the *NID* and *PDB* are daily intelligence publications, and while they can be accessed through Intelink, the conflict of whether they should be considered as part of Intelink or as separate sources of information for the policymaker is resolved in the following way. If a policymaker

accessed either publication electronically, it would count as accessing information through Intelink. If the policymaker accessed the *NID* or *PDB* in hard copy, then it would be ranked as the *NID* or *PDB*. Other Daily Intelligence Publications encompass a long list of daily intelligence publications listed in the CIA's *A Consumer's Guide to Intelligence*, other than the *NID* and *PDB*. All the publications within the category of Other Daily Intelligence Publications were grouped together for expediency, admittedly at the cost of some recording accuracy, but necessarily to keep the survey tool to a manageable size for respondents. Other Ad Hoc Intelligence Reports are intelligence monographs from three to ten pages in length, sometimes written in response to breaking events or a policymaker's special request, and for this study are defined as published on paper and delivered by hand. They can be tailored to policymaker's needs, usually focusing on a single event or foreign policy issue.

Time Intervals

As already mentioned, to rank their preferences for attributes and sources of information, the policymakers were asked to consider their needs at two different periods of time relating to each foreign policy event.

India Nuclear Test
T_1: The first day immediately after learning of India's nuclear test.
T_2: The time interval between the Indian test, and Pakistan's nuclear test shortly after.

Serbia's Crackdown on Kosovo
T_1: The interval during Serbia's military action against Kosovo.
T_2: The interval during American bombing of Serbia.

WTO Ministerial in Seattle
T_1: August 1999 until November 1, 1999.
T_2: November 1999 until the ministerial in December 1999.

Each of the three events offers an isolated and independent opportunity to

examine and compare how policymakers in the information age acted when they needed information. The time intervals are not uniform across the policy events because the events are distinct and took place over very different periods of time. Trying to force a set time period for all three events would be even more arbitrary than tailoring the time intervals to the details of each.

However, there is an unavoidable degree of arbitrariness in the choice of these foreign policy events, and in the choice of the time intervals as well. For the India nuclear test, the time intervals chosen were more obvious than with the other two foreign policy events. Policymakers in early interviews consistently identified the first day as distinct because they uniformly volunteered that the event came as a complete surprise, the consequences were extremely grave, and U.S. officials had an immediate need to understand the situation as quickly as possible. After the first day and Washington's diplomatic condemnation of the test, the key issue was to prevent Pakistan from conducting a nuclear test of its own, and policymakers had tremendous need for information to support their policies and interactions with Pakistan.

The Serb action against Kosovo was a more drawn-out event, where U.S. policymakers for years had been aware of Serbia's aims towards Kosovo, knew of the potential greater-Balkan war that could erupt from a Serbian invasion, all of which had led President George H.W. Bush to declare, and President Bill Clinton to later reaffirm, that the U.S. would not tolerate Serbian aggression against the ethnic Albanian minority in Kosovo.

Even so, when Serbia moved against the Albanian minority in Kosovo in 1998, U.S. policymakers took months to consider and assess options where they required

information to make the best decisions before the U.S. actually began bombing Serbia in 1999. Thus the two major components of this foreign policy event were the series of events that took place after the Serbian aggression but prior to the bombing, and then during the U.S. air campaign.

Setting the two time intervals for the WTO ministerial in December 1998 relied on research and multiple interviews with policymakers involved in setting the U.S. trade negotiating strategy. U.S. strategy preparations took place in two distinct phases where policymakers in the first phase put together position papers and did background research, but did very little actual strategy planning. This phase lasted from August, 1998 until late November, 1998. The reason that very little planning went on during this interval is that the U.S. at the same time was deeply involved in direct negotiations with China over its potential entry into the WTO, and preparing for the Seattle ministerial took a backseat to the China initiative. It was only after Thanksgiving, 1998, that U.S. policymakers really turned their attention to preparing a strategy, and this division of pre-Thanksgiving/post-Thanksgiving provides a good delineation for evaluating how policymakers needed information at different time intervals. It is important to note that intelligence support to policymakers continued during the actual trade talks, but this study is only examining how policymakers used information to prepare U.S. trade strategy up until the when the meetings began.

The objective of choosing two time intervals is to isolate distinct periods of time to enable policymakers to better identify how they needed and used information for each foreign policy event. The time intervals are not meant to be consistent across the international events. The entire India nuclear test event spans a total of approximately

two weeks. The Serbia and WTO events span months. Attempting to enforce uniformity of time intervals across these distinct foreign policy events would have limited the ability to capture how policymakers acted in each event since the key events to be studied for Serbia and the WTO Ministerial took far longer than the relevant events for the India nuclear test.

As mentioned earlier, the time intervals are not uniform but that is intentional as they mainly were provided to help the policymakers put their recollections in a frame of reference. Furthermore, the analysis that comes out of the data collected is not dependent on the length of the time intervals. This will be described in the next section that explains the use of the tool used to rank policymakers' preferences – the Analytic Hierarchy Process.

Data Collection – The Analytic Hierarchy Process

One obvious problem with asking policymakers at two distinct time intervals to rank the attributes and sources of information is accurately weighing the value of the different attributes and sources of information against each other. Asking any individual at one sitting to rank ten attributes of information, or thirteen sources of information would not yield consistent, nor reliable results. Fortunately, an analytic tool named the named the Analytic Hierarchy Process (AHP), well-known in the field of operations research, allows individuals to make accurate and consistent rankings of multiple choices. The main technique of AHP asks experts to make pairwise comparisons of all possible combinations of items to be ranked to elicit the relative preferences of the evaluators.[224]

Using AHP requires a multi-step process where the first step is to identify and

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[224] Thomas L. Saaty, *The Analytic Heirarchy Process*, McGraw Hill, New York, 1980.

summarize the different items to be ranked. This has already been explained as the attributes and sources of information. The second step requires selected "experts" – in this case senior policymakers who regularly need and use intelligence and other forms of information – to fill out structured questionnaires on the relative importance of the different attributes and sources of information through pairwise comparisons. The evaluator chooses one item against another on a weighted scale in a questionnaire, such as in the example figure below, until all possible combinations have been evaluated.

Sample AHP Questionairre	Far More Important 7	Strongly More Important 5	Slightly More Important 3	Equal value 1	Slightly More Important 3	Strongly More Important 5	Far More Important 7	
				VS.				
Choice A	☐	☐	☐	☐	☐	☐	☐	Choice B
Choice A	☐	☐	☐	☐	☐	☐	☐	Choice C
Choice A	☐	☐	☐	☐	☐	☐	☐	Choice D
Choice A	☐	☐	☐	☐	☐	☐	☐	Choice E
Choice B	☐	☐	☐	☐	☐	☐	☐	Choice C
Choice B	☐	☐	☐	☐	☐	☐	☐	Choice D
Choice B	☐	☐	☐	☐	☐	☐	☐	Choice E
Choice C	☐	☐	☐	☐	☐	☐	☐	Choice D
Choice C	☐	☐	☐	☐	☐	☐	☐	Choice E
Choice D	☐	☐	☐	☐	☐	☐	☐	Choice E

Figure 5-2

The preferences are weighted where the score of "1" shows equal preference, a score of "3" shows slight preference, a score of "5" shows strong preference, and a score of "7" shows very strong preference. The results are placed into a matrix where the elements of each column are divided by the sum of that column (i.e., normalized), and then added in rows and divided by the number of elements in the row. This is known as averaging over normalized columns. This process not only reveals the policymaker's ranking of each preference, but also reveals the relative strength of each preference. The scores are presented as percentages of total preference where the total sum of the scores for each ranking equals 1.0.

A consistency measure exists as an arbitrary metric of how consistent a

policymaker is in transitively ranking one preference over another. Saaty provides the tools to derive this index and it is considered ideal at .10 or under, but this is more of a measure of inconsistency because the perfectly consistent set of responses will drive the index to zero.[225] Therefore the real index of consistency should be measured as one-minus-Saaty's index, where 1.0 equals a perfectly consistent set of responses, and this is the figure that will be reported here. Saaty prescribes that a consistency index (CI) of .9 ought to be the threshold sought for good results, but a consistency index of less than .9 does not necessarily invalidate the data. First of all, Saaty concedes that the .9 threshold is a completely arbitrary figure. Even in the examples Saaty invents in his book describing the process, his results do not produce a .9 consistency index. The lack of a reliable, quantitative measure of a respondent's consistency is a weakness in this process, but one that can be effectively addressed.

Every policymaker for this study was interviewed in addition to being given a quantitative survey to complete. In areas where a consistency index falls below .9, additional responses from the policymaker are provided to give a fuller and more complete evaluation of the official's preferences. While there were no cases where a policymaker's CI fell below.8, in those cases where the CI is below .9, additional responses from the respondent will be included to bolster the survey data and demonstrate that the survey data does indeed capture the policymaker's preferences.

Policymakers were interviewed about their access to various sources of information and then given an AHP questionnaire to complete and return. Of the 24 individual policymakers who participated, a total of eight completed the quantitative

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[225] Saaty, pg. 17 - 21.

AHP survey as described earlier, and the results below detail their individual preferences in each foreign policy event for the attributes of information they found most important, and the sources they found most useful at each time interval. Each set of responses is analyzed for the most notable findings.

Policymakers and the India Nuclear Test

India on May 11, 1998 surprised the world when it tested its first nuclear warhead since 1975 – a move that threatened stability throughout Asia and a potential nuclear arms race with China and Pakistan. Seismic monitors used by civil, commercial, and private organizations around the globe easily detected the shockwave from the blast, alerting every information-providing organization in the world, including U.S. intelligence agencies. The U.S. policy community was thrown into chaos from the surprise. The *Washington Post*, the day after the test, quoted U.S. officials saying "every aspect of Washington's relationships with India and Pakistan may now have to be reexamined."[226]

Senior U.S. policymakers considered the event to be extremely serious, especially because India and Pakistan often skirmished over the disputed Kashmir region. Suspecting that Pakistan had all the materials necessary for its own nuclear test, policymakers realized that adding nuclear weapons to both sides could conceivably lead to a nuclear showdown.[227]

Adding stress to the event, most U.S. policymakers felt they received no direct indication or imminent warning that India had been planning to test such a weapon.[228]

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[226] "India Sets Off Nuclear Devices; Blasts Create Shock Waves For U.S. Policy," *Washington, Post,* [FINAL Edition] Washington, D.C., May 12, 1998, pg. A1.
[227] Ibid.
[228] There is controversy whether the intelligence community was surprised, or whether policymakers were not correctly using the intelligence given them. However, none of the policymakers interviewed for this study felt they had been fairly warned.

This created a very rushed and energized environment in U.S. policymaking agencies on the first day when it was learned that the event had taken place. Policymakers needed to learn what happened and absorb as much vital information as possible in the available time to make the best decisions. Following this initial rush for information came pressure to take steps to encourage Pakistan to not follow India's actions and test a nuclear warhead of its own.

This event offers an interesting opportunity because India's nuclear test was like a starter's pistol announcing the start of a harried competition between intelligence agencies and open source organizations, all rushing to publish and disseminate their analysis to vie for policymakers' attention. How well they performed will now be explained.

NSC

India had detonated its device at 6:15 A.M. on the morning of May 12, and the surprise of the event created a frantic environment where many unconfirmed reports were circulating. At the National Security Council, the policymaker surveyed for this section indicated that he first needed information that was accurate and reliable. Since the policymaker had not been prepared for this event, the official also needed information that was as comprehensive as possible, and timely since the NSC needed to prepare the National Security Advisor with the latest breaking events for his meeting with the President. Finally, with time being so crucial and in short supply, the official needed information that was readily available so that he did not have to search for it with any difficulty, or wait for it to be delivered.[229]

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[229] "India Sets Off Nuclear Devices; Blasts Create Shock Waves For U.S. Policy," *Washington, Post,* [FINAL Edition] Washington, D.C., May 12, 1998, pg. A1.

To satisfy these needs for information, the policymaker found intelligence important, useful, and of high quality, but also relied on some open sources as well.[230] As the most valuable source of information, the policymaker most valued intelligence briefings. The value of the briefing to this official was having an expert briefer available who had expertise that was both broad and deep – satisfying the need for accurate, reliable, and comprehensive information. The ability to interact with the briefer and ask questions was also a major strength. The weakness of the intelligence briefing, according to the official, was that it was impossible to get one immediately – briefers needed time to prepare since they were also surprised by the event, were in short supply since many seniors in the intelligence community as well as the policy community all wanted briefings and written reports, and ultimately were hampered by the logistical reality of traveling to the National Security Council in downtown Washington, D.C. during midday heavy traffic. Consequently it was not until the afternoon after the NSC requested an intelligence briefing that briefers arrived. Given the environment on that day, this delay added to the policymaker's stress.

When queried about using the telephone for more immediate access to intelligence experts, the official responded that the telephone was impractical if the briefer was planning to use visible aids such as briefing charts. When asked if he had considered using Intelink to view the charts on his computer screen while talking on the telephone to an intelligence analyst, the official responded that he had never used Intelink that way. Furthermore, the policymaker was uncomfortable on a personal level using the telephone with someone with whom he had no personal relationship. This is where

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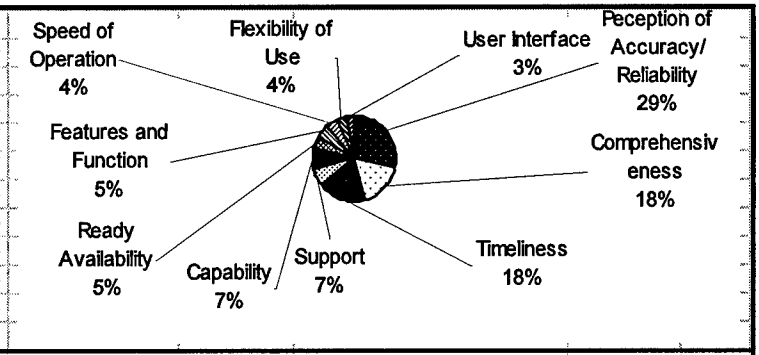
[230] This is noted with the caveat that all policymakers were disappointed by the intelligence community's inability to provide them with timely warning of the event.

mindsets, cognitive biases, and personal style factor in. This policymaker used the telephone only with contacts he knew, and with whom he felt comfortable.

NSC Attributes – India – T1		
1	Peception of Accuracy/ Reliability	0.29
2	Comprehensiveness	0.18
3	Timeliness	0.18
4	Support	0.07
5	Capability	0.07
6	Ready Availability	0.05
7	Features and Function	0.05
8	Speed of Operation	0.04
9	Flexibility of Use	0.04
10	User Interface	0.03
	C.I. =	0.82



NSC Sources – India – T1		
1	Intelligence Briefing	0.18
2	WWW	0.13
3	*PDB*	0.12
4	Other Intelligence Reports	0.11
5	*NID*	0.10
6	TV	0.10
7	E-Mail	0.09
8	Telephone	0.04
9	Other Daily Pubs	0.04
10	Intelink - SCI	0.03
11	Radio	0.03
12	Print Journalism	0.03
	C.I. =	0.80

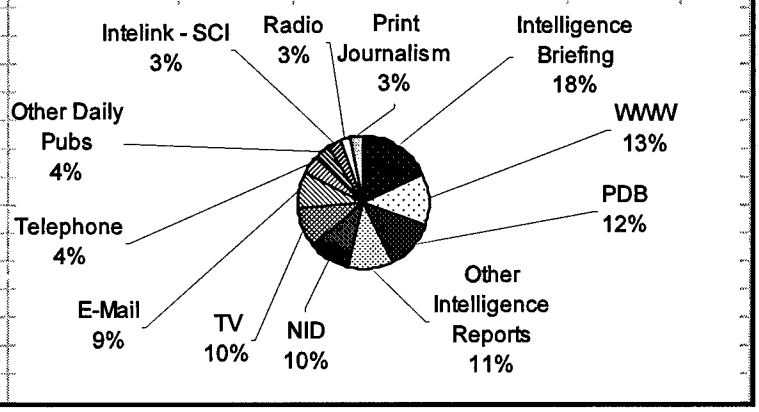


Figure 5-3

Because timeliness was so important, the policymaker also searched for information on the WWW and found it the second most valuable source on this day. The policymaker found the value of the Web to be its be its ability to deliver the most up-to-date information from all the major news agencies and organizations. The official noted that the Web could not be considered as reliable as any intelligence source, largely because professional news services' accuracy suffers when they are trying to get reports out quickly (this was not cited as much of a weakness for the intelligence community, as intelligence analysts were seen to have more in-depth expertise on which to draw). The policymaker accepted this risk because he needed information and the Web was more comprehensive than television news services, and the most available source with the

timeliest information.

Importantly, as alluded to earlier, the policymaker did not find Intelink very useful, and in fact ranked it far below the WWW. This official had access to Intelink-SCI, but claimed to use it sparingly. The policymaker had little or no training on the system, was not aware of where the best analysis could be found, and consequently had no trust in it.

The survey data collected for this policymaker at this time interval is presented above in figure 5-3. It shows how four of the top five most useful sources of analysis came from the intelligence community.[231] The high ranking of the WWW suggests the Internet can compete with intelligence for a policymaker's attention, although intelligence still seems to be more useful overall than open source analysis. The consistency index for the data does not exceed the .90 threshold to be ideal for either example, but is close enough to be acceptable, similar to an example that Saaty uses as an example to illustrate AHP.[232] Furthermore, even though the C.I. does not meet the arbitrary threshold of .9, the data is totally consistent with the fuller responses the policymaker offered in the interview, and described above.

The top half of the chart contains this NSC policymaker's rankings of the attributes of information for the first interval of the India case (labeled "NSC Attributes – India – T1"), and the bottom half contains the policymaker's rankings for the sources of analysis (labeled "NSC Sources–India–T1"). The relative rankings are presented in both table and pie chart to show two different presentations of the same information. The

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[231] The NSC is connected to Intelink via JWICS network and therefore has access to Intelink-SCI. For policymakers at agencies that have access to Intelink-SCI, the ranking for Intelink-S will be zero, and vice versa. At agencies where policymakers have access to neither, both receive scores of zero.
[232] Saaty, pg. 21.

numerical values attached to each item indicate the relative percentage value of each. The sum of the values for each table equals 100 percent or (1.0). Those attributes or sources that fall in the arbitrarily determined top sixty-six percent will be considered significant to the policymaker while those that fall in the bottom third will not.

During the second time period the policymaker continued to find intelligence valuable, even though Intelink once again ranked near the bottom. The two weeks between India's nuclear test and Pakistan's test were still frenzied as the U.S. government had several issues to address. The most important was to try and convince Pakistan to refrain from assembling and testing a nuclear weapon of its own. The other important issue was to determine how to react to India.

The first issue was daunting enough. Washington was immediately faced with the challenge of stopping "the chain reaction that it had long predicted in the event of an Indian or Pakistani nuclear blast, namely a decision by the other country to respond in kind with a blast of its own." There was little hope of this effort being successful, as few U.S. officials believed they could prevent Pakistan from testing its own weapon, especially after Pakistan made repeated public threats to do just that. U.S. officials were quoted saying "Pakistan did not want to be the first to test . . . but now they will be forced to by [their] public opinion."[233]

Feeling the need to try anyway, President Clinton made three telephone calls to Pakistani Prime Minister Sharif in this time period, relying on preparation from senior policy officials, especially National Security Advisor Sandy Berger. While Administration officials insisted these calls were not a negotiation, the President did try

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[233] "Defiance Endangers U.S.-India Relations; Administration Had Urged Cooperation," *Washington Post,* May 12, 1998, Thomas W.

to persuade the Pakistani leader to use restraint.[234] The decision to make these calls, and the President's preparation for his conversations with Sharif were largely supported by the NSC, and to give that support, the NSC officials needed analysis, as shown below.

The second issue at the NSC was the issue of the U.S. reaction to India. American law – the 1994 Nuclear Proliferation Prevention Act -- required the President "within 30 days of certifying that any country other than the five declared nuclear powers has exploded a nuclear device, to cut off all military sales and aid, block all credit and loan guarantees by U.S. government agencies, oppose loans in international development banks, block credit by private U.S. banks and prohibit the export of any technology that could be used for military purposes." The sanctions were mandatory by law, and no waiver was possible under the statute. The President's Principal Advisor for National Security Affairs Sandy Berger announced "there are U.S. laws that operate in this field that apply to so-called non-declared nuclear states.... We will examine those laws very carefully in the context of the reported actions today, and we will obviously enforce our laws."[235] With this statement the National Security Advisor made clear what one of the priorities would be for the NSC.

However, policymakers tried to look for an alternative anyway, since the U.S. was India's biggest trading partner, and cutting it off from trade and aid would do nothing to ease tensions in the region, and instead might exacerbate instability. Alternatively, a

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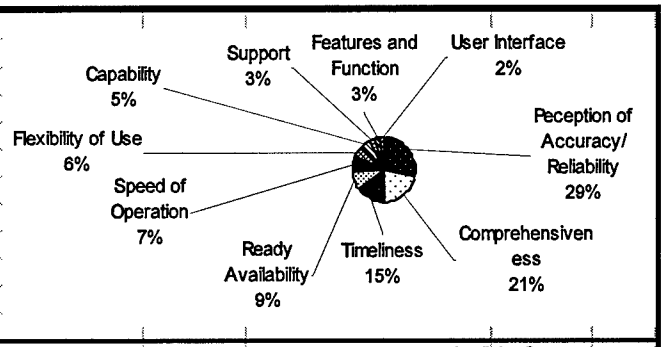
Lippman, pg. A15.
[234] "China Asked Pakistan Not To Conduct Tests," *Washington Post,* May 28, 1998, John Pomfret, pg. A36.
[235] "Defiance Endangers U.S.-India Relations; Administration Had Urged Cooperation," *Washington Post,* May 12, 1998, Thomas W. Lippman, pg. A15.

compromise strategy was seen as one that could boost confidence and security among all states in the region.[236]

NSC Attributes – India – T2		
1	Peception of Accuracy/ Reliability	0.29
2	Comprehensiveness	0.21
3	Timeliness	0.15
4	Ready Availability	0.09
5	Speed of Operation	0.07
6	Flexibility of Use	0.06
7	Capability	0.05
8	Support	0.03
9	Features and Function	0.03
10	User Interface	0.02
	C.I. =	0.8



NSC Sources – India – T2		
1	Intelligence Briefing	0.15
2	*PDB*	0.15
3	WWW	0.11
4	*NID*	0.11
5	Other Intelligence Reports	0.11
6	E-mail	0.10
7	Print Journalism	0.09
8	TV	0.04
9	Other Daily Pubs	0.04
10	Telephone	0.04
11	Intelink - SCI	0.04
12	Radio	0.02
13	Intelink - S	0.00
	C.I. =	0.80

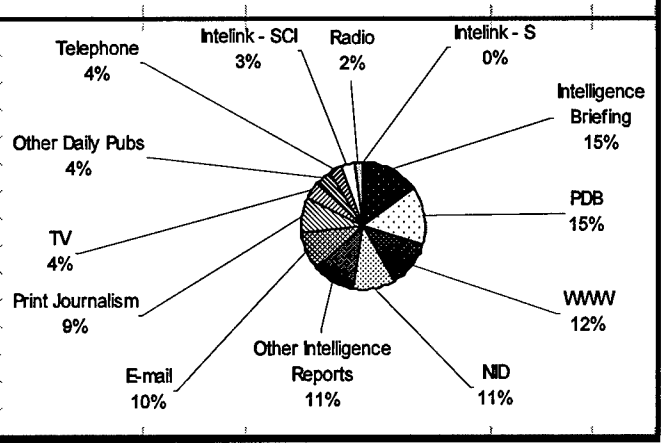


Figure 5-4

Despite the different nature of the policy issues in the second time period, the policymaker's preferences for information remained fairly consistent, as shown in the figure above. This individual needed analysis that would help formulate a policy to deter Pakistan from testing it's own nuclear weapon, as well as analysis that would help shape policy towards India. Because the impact of these policies was so great, the official felt he most needed information he could trust and therefore accuracy and reliability were still the most important attributes. Comprehensiveness was vital as well since the issues to be addressed were so broad and the impacts of U.S. policies would be so as well. For example, the U.S. Agency for International Development (USAID) had been planning on

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[236] Ibid.

sending aid to New Delhi that was targeted at helping India develop its stock market and sell municipal bonds. Any "opposition by Washington to loans to India from the World Bank would threaten billions of dollars of projects to build roads and irrigation systems and reform electricity utilities -- all vital to accelerating India's economic growth and its war on poverty."[237] Understanding the implications of any U.S. policy required sources of information that were incredibly broad. Finally, as developments were accelerating daily, timely information was also vital.

To get information on these issues, the policymaker still heavily relied on intelligence, although the WWW was still valuable as well. This policymaker in the second time interval ranking intelligence sources as four of the top five most useful. Once again the intelligence briefing topped the ranks, and was considered very valuable. The policymaker again praised the expertise of the intelligence analysts in both breadth and depth. Since this time period gave the official more time to act and consider options, he especially valued the ability to question the briefer, and more importantly, redirect the analyst along specific lines of inquiry. This ability to task and re-task the briefer was the most valuable aspect of the briefing for this time period. Because the *PDB* was updated daily, tailored to the highest level of policymaker, and also widely read throughout the NSC, the official found it valuable as well.

The WWW dropped in relative usefulness to the third most useful source of information, tied with the *NID* and other intelligence reports. In this case, the Web was the best source to access news organizations with the most breaking information, and was

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[237] "U.S. Is Poised to Slap Sanctions on India Soon --- Penalties for Nuclear Tests Could Hurt U.S. Firms, Slow a Recovery Drive," *Wall Street Journal*, New York, N.Y., May 13, 1998, Jonathan Karp in New Delhi And Robert S. Greenberger in Washington, pg. A10.

the highest ranked information age source. Once again, Intelink did not rank highly.

The consistency index for the attributes is (.81) and (.80) for the sources of information – below the ideal (.90) threshold – and could be problematic and suggestive that the results here are less reliable, but the policymaker's responses supported the findings of the survey data. The data from both time periods is aggregated below in Figure 5-5.

Summary of NSC Policymaker Data From the India Nuclear Test

		Ranking									
	Attributes	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
1	Peception of Accuracy/ Reliability	2									
2	Comprehensiveness		2								
3	Timeliness			2							
4	Ready Availability				1		1				
5	Capability					1		1			
6	Support				1				1		
7	Speed of Operation					1			1		
8	Flexibility of Use						1			1	
9	Features and Function							1		1	
10	User Interface										2

		Ranking												
	Sources	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
1	Intelligence Briefing	2												
2	WWW		1	1										
3	*PDB*		1	1										
4	Other Intelligence Reports			1	1									
5	*NID*			1		1								
6	E-Mail						1	1						
7	TV						1		1					
8	Telephone								1		1			
9	Other Daily Pubs									2				
10	Print Journalism							1					1	
11	Intelink - SCI										1	1		
12	Radio											1	1	
13	Intelink-S													2

Figure 5-5

Each cell in the table above gives the number of times a preference was given a specific rank. The results between the first and second time period were fairly consistent. Even with excellent access to non-intelligence sources of analysis, this policymaker still

found intelligence analysis to be very good and highly useful, with traditional intelligence analysis taking four of the top five ranks. However, the second most useful source of information overall was the WWW, showing that the usefulness of an information age source can compete with intelligence sources for the policymaker's attention. This policymaker clearly preferred intelligence analysis disseminated in traditional ways to analysis made available on Intelink that ranked near the bottom in both time periods.

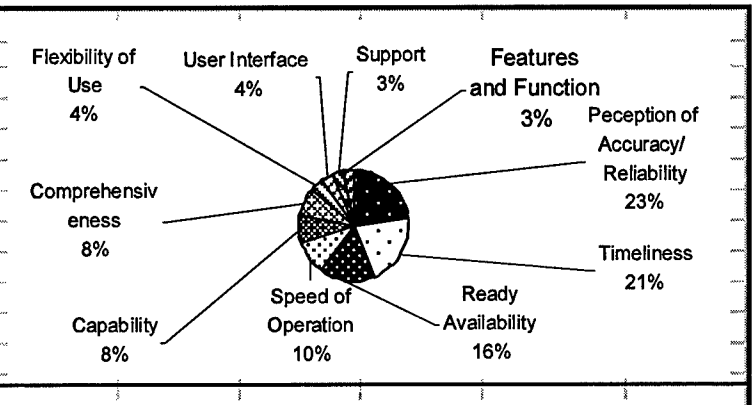
There are two important pieces of data from this case. The first is that the individual's comfort level and cognitive bias prevented him from using the telephone to call intelligence analysts for information, since he claimed he was not comfortable using the phone for contacts with whom he did not have a trusted relationship. The second relevant fact is that his lack of training on Intelink necessitated having a briefer arrive in person, and this hurt his need for the best information to be readily available.

OSD

The Office of the Secretary of Defense (OSD) had different concerns and issues than the NSC, and in some ways had a smaller scope of issues on which to react. Some of the key issues the Secretary of Defense needed to know were the military implications of India's nuclear blast, and the potential changes an Indian nuclear weapon could bring to the tenuous military balance between India and Pakistan, as well as the escalating tensions between India and China. Rather than focus on the regional, political issues as did the NSC official, or the possible U.S. responses such as trade sanctions, the policymaker at OSD was more concerned with technical and military issues concerning India's nuclear program, including facts about India's bomber aircraft that could deliver nuclear weapons. Of paramount concern were updates on India's medium-range Agni ballistic missile program, at that time in the final stage of development, which was

projected to have a range of 1,400 miles and capable of reaching more than 15 nations, including much of China. The policymaker also needed analysis of radioactive particles released by the blasts and captured downwind, in order to determine the nature of the weapon detonated.[238]

OSD Attributes – India – T1		
1	Peception of Accuracy/	0.23
2	Timeliness	0.21
3	Ready Availability	0.16
4	Speed of Operation	0.10
5	Capability	0.08
6	Comprehensiveness	0.08
7	Flexibility of Use	0.04
8	User Interface	0.04
9	Support	0.03
10	Features and Function	0.03
	C.I. =	0.91



OSD Sources – India – T1		
1	Intelligence Briefing	0.26
2	*NID*	0.15
3	Other Intelligence Reports	0.14
4	Intelink-S	0.11
5	Other Daily Pubs	0.07
6	Radio	0.06
7	E-mail	0.05
8	Telephone	0.04
9	Print Journalism	0.03
10	TV	0.03
11	WWW	0.03
12	*PDB*	0.02
13	Intelink-SCI	0.00
	C.I. =	0.93

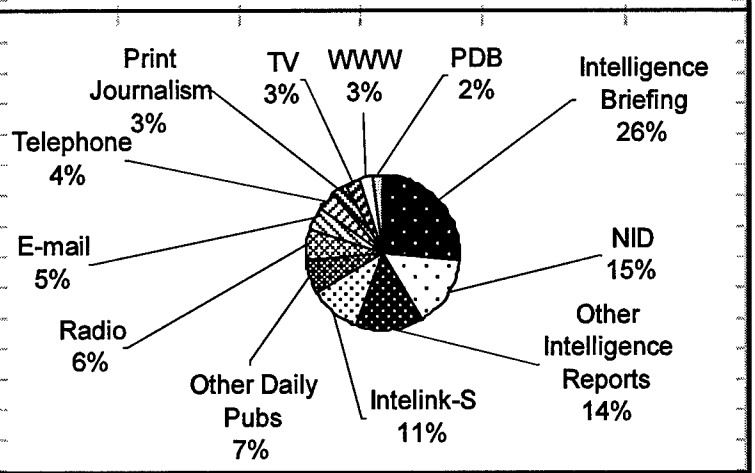


Figure 5-6

These particles had been captured by Air Force sampling planes and government-owned and operated ground-based radiation detectors. This analysis would determine whether or not India's weapon had been a simpler-design, one-stage fission weapon, or a much more complex, higher yield, multi-stage fusion weapon. The latter, being far more powerful, was even more destabilizing and worrisome. Facts about Pakistan's suspected

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[238] "Yield Key To Mystery Of Blasts," Carl Suplee, *The Washington Post,* , May 14, 1998, pg. A28.

nuclear weapons program were also vital.[239]

The policymaker at OSD was taken by surprise by the nuclear test, and as with the policymaker at the NSC, was in a frenzied state when learning of it. In order to respond, the official felt he needed, first and foremost, analysis that was accurate and reliable to simply understand what India's actions and the nature of India's nuclear weapon. Next most important, this policymaker needed the most timely, up-to-date information about since it was possible India had not completed its series of tests in that first day, with more tests to come. He also needed the most recent updates on Pakistan's and China's reactions, as well as background information on China's and Pakistan's military forces, since OSD needed to support the President's negotiations with Pakistan, and prepare for any military responses from Pakistan and China.

To fulfill these needs, this policymaker relied almost totally on intelligence to the exclusion of all other sources, as shown above in figure 5-6. This was largely because of a combination of factors, including the nature of the policy event, the policymaker's own personal preferences, and the facility in which he worked -- the Pentagon. The official explained that the intelligence community had fifty years of experience analyzing these highly detailed, technical issues involving nuclear weapons proliferation. Intelligence agencies and the military could also rely on an extensive network of sources and methods to collect data on India's test. While it was well within the ability of commercial sources to collect similar data, and even to hire analysts with the scientific expertise to conduct similar analysis to what was being done within the military, this policymaker claimed that non-intelligence sources did not perform that kind of analysis. He speculated they would

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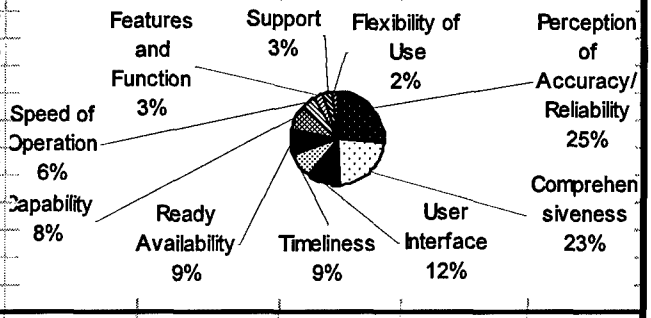
[239] "India Sets Off Nuclear Devices; Blasts Create Shock Waves For U.S. Policy," *The Washington Post*, Washington, D.C., May 12,

not be likely to in the next five years, mostly because the cost was high and there was too small a market for it. In other words, commercial sources would not have the same quality of analysis in this area in terms of depth, comprehensiveness, and timeliness, because it was not profitable for the private sector to provide this product. Furthermore, without the reputation for having that kind of expertise, he would not have been comfortable trusting commercial analysis.

Similar to the NSC official, this policymaker found the intelligence briefing the most useful, mostly because of the expertise of the briefer and the interactivity with a human being. Because the Indian nuclear test certainly opened the possibility of a Pakistani nuclear test, this interactivity was important to request follow-on briefs on Pakistan, it's military power, delivery systems for nuclear weapons, and likely intentions. To fill in background information, the official relied on printed intelligence publications such as the *NID* and other intelligence reports. Intelink was the most valuable information-age source of analysis, and the fourth most useful source overall. This is surprising because this office in the OSD only had access to Intelink-S, and did not have access to Intelink-SCI. The policymaker in a follow-up interview concurred with the NSC official that the intelligence community never offered any official instruction, but this official in the Pentagon had an advantage that numerous active-duty military officers worked in the same office. These officers provided informal but valuable instruction on how to use Intelink-S and gain access to the network's Communities of Interest (COI's). This suggests the intelligence community could increase the value of its support to policymakers by better educating policymakers on how to use Intelink effectively.

1998, R. Jeffrey Smith, pg. A1.

OSD Attributes – India – T2		
1	Perception of Accuracy/ Reliability	0.27
2	Comprehensiveness	0.23
3	User Interface	0.12
4	Timeliness	0.09
5	Ready Availability	0.09
6	Capability	0.08
7	Speed of Operation	0.06
8	Features and Function	0.03
9	Support	0.03
10	Flexibility of Use	0.02
	Consistency Index =	0.8



OSD Sources – India – T2		
1	Intelligence Briefing	0.27
2	*NID*	0.16
3	Other Intelligence Reports	0.14
4	Intelink - S	0.11
5	Other Daily Pubs	0.07
6	E-Mail	0.06
7	Telephone	0.05
8	Radio	0.04
9	Print Journalism	0.03
10	TV	0.03
11	WWW	0.03
12	*PDB*	0.02
13	Intelink – SCI	0
	Consistency Index =	0.83

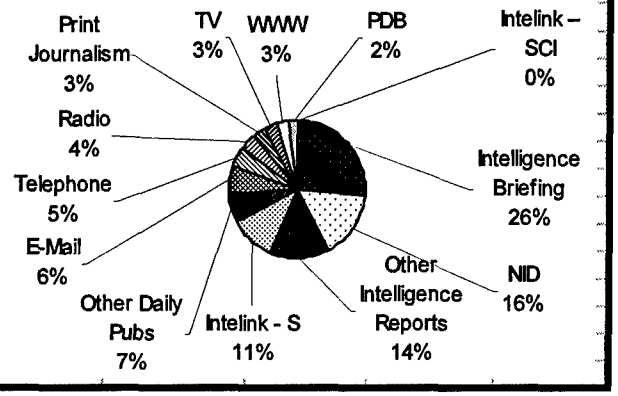


Figure 5-7

The results from the second time period mirror those from the first, as shown in figure 5-7 above.[240] In this time period the policymaker had more time to gather information and prepare the Secretary of Defense for high-level meetings, although the environment was still rushed as policymakers felt they were racing the clock to act before Pakistan tested its own weapon. Since the Administration's highest priorities were deciding whether or not to impose sanctions on India, and deterring Pakistan from following India's actions, OSD temporarily found itself in a secondary role of providing background for the highest level policymakers. Consequently, this policymaker still needed information that was accurate and reliable, as well as comprehensive, but timeliness and ready availability were no longer as critical. In spite of the changed environment in this time period, the official's preferences for information sources still

heavily favored intelligence.

The data shows intelligence sources were still highly useful to this policymaker in the second time period, and traditional intelligence sources of analysis were still more useful than any others. This policymaker felt perception of accuracy/reliability was again the most important attribute, followed by comprehensiveness. In discussions about this time period, the policymaker expressed The value of these two is as great to the policymaker as all the others combined, although user interface and timeliness still fell in the top two-thirds.

The intelligence briefing was still the most useful source of analysis, and as in the first time interval, the next three most useful sources of information also all came from the intelligence community. The policymaker found information age sources of analysis less useful than traditional sources, with Intelink-S again the fourth most useful, e-mail the seventh, and the WWW the eleventh. However, Intelink was the most useful information age source of analysis in both periods. The consistency index was below the .9 threshold for each measurement, but since the results from the second time period are so similar to the those of the first time period, especially for the sources of information, and the policymaker's interview confirms what the data shows, the data is valid. The data from both time periods is aggregated below in figure 5-8.

There is more variation in this policymaker's ranking of the attributes of information than in the ranking of the information sources. This policymaker in both time periods had a strong preference for information that was accurate and reliable, timely, and comprehensive. To satisfy these needs, the OSD official found intelligence

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[240] These results were so similar that that the original data was checked, and re-checked to ensure there was no error in data entry.

analysis most useful, especially when compared to traditional and information-age non-intelligence analysis. Intelink was the most useful information age source of analysis, but still less useful than several traditional sources.

Summary of OSD Data From the Indian Nuclear Test

		Ranking									
	Attributes	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
1	Peception of Accuracy/ Reliability	2									
2	Timeliness		1		1						
3	Comprehensiveness		1				1				
4	Ready Availability			1		1					
5	Speed of Operation				1			1			
6	Capability					1	1				
7	User Interface			1					1		
8	Flexibility of Use							1			1
9	Support									2	
10	Features and Function								1		1

		Ranking												
	Sources	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
1	Intelligence Briefing	2												
2	*NID*		2											
3	Other Intelligence Reports			2										
4	Intelink-S				2									
5	Other Daily Pubs					2								
6	E-Mail						1	1						
7	Radio						1		1					
8	Telephone							1	1					
9	Print Journalism									2				
10	TV										2			
11	WWW											2		
12	*PDB*												2	
13	Intelink - SCI													2

Figure 5-8

There are two major findings of interest in this case. The first is that intelligence continues to have an advantage in collecting and analyzing information that is of import to policymakers, but which the open market for information might ignore. Some policymakers at times need information that is far too technical, detailed, or even esoteric for the mass market of information consumers, and most mainstream commercial vendors of information will not try to supply that kind of information. Concerned individuals or independent agencies might try to supply this sort of analysis, but the policymaker in this case stated he would be skeptical of the value of analysis from those sources, compared

to the intelligence community.

This may be a niche the intelligence community will always be able to supply. Open sources of data and analysis might not find it profitable or even possible to cover these issues to serve their clientele, but intelligence requirements are not driven by responding to the largest number of policymakers. These requirements are driven by national needs, even if only a small number of policymakers need that kind of analysis.

The other major finding of interest in this case is the usefulness of Intelink. Ranking the same intelligence sources in the top four in both time periods, this individual clearly had a strong preference or need for intelligence analysis over non-intelligence sources, but this preference alone cannot explain the policymaker's use of Intelink, since the policymaker still needed to understand the network in order to access it. The OSD environment provided military officers who knew how to use Intelink and who informally instructed the OSD official. This allowed the official to explore the network and find useful analysis. Policymakers' need for analysis found on Intelink will vary depending on their personal styles and preferences, as described in Chapter Three, but it is unlikely they will ever even give the system a chance if they do not know how to use it, as suggested by the first case study of the NSC official. This OSD official shows one example of a policymaker who knew how to use the system and who did find it useful. Instruction may be a major factor for how effective information age intelligence will be able to compete for policymakers' attention in the information age.

State

The State Department had its own issues and constraints under which it had to operate. State had long been promoting a new, "wide-ranging ... relationship of cooperation that would lay to rest the years of Cold War suspicion between Washington

and New Delhi." Secretary of State Madeleine Albright had been to India only the previous year, re-engaging with the Indian government to work on issues it had in common with the U.S. including "a top priority – persuading India not to resume [nuclear] testing."[241]

Responsible for managing relations with New Delhi, State needed to assess the regional and diplomatic impact of the nuclear tests and recommend policies to the Secretary and the President. In the first period, State needed recommend whether or not to impose sanctions on India, and also advise the President on how to interact with other foreign leaders, including Pakistan's Prime Minister Sharif, and Russian President Boris Yeltsin, among others. Building foreign condemnation of the nuclear test was another option it had to pursue, and State immediately began assessing countries who would join the U.S. in protesting India's actions. Japan, having been the first, obvious choice since it has long opposed any and all nuclear proliferation.[242]

The policymaker's responses, shown below, reflect the constraints the State Department imposes on policymakers as much as they reflect the individual's personal preferences for using information. These rankings suggest that intelligence and open source information are both useful to this policymaker, but only via traditional channels.

Like the previous two policymakers, the data shows the official most needed information that was accurate and reliable to help formulate these policies, but he also needed information from a source that operated quickly. The official supported this data, explaining that at the State Department, getting information can take considerable time

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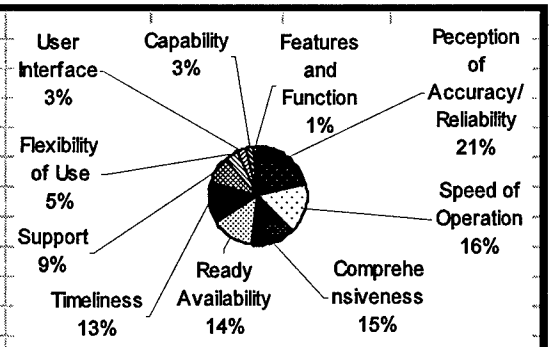
[241] "Defiance Endangers U.S.-India Relations; Administration Had Urged Cooperation," *The Washington Post,* May 12, 1998, Thomas W. Lippman, pg. A15

[242] "Indian Blasts Bring World Condemnation; Arch-Rival Pakistan Considers Staging Nuclear Test of Its Own," *The Washington Post,* May 13, 1998.

as detailed in previous chapters, and without the television or the Internet, there were no good choices for getting any information on the spur of the moment. Instead, the official had to wait for other sources that involved delays and created stress.

State Attributes – India – T1		
1	Peception of Accuracy/ Reliability	0.21
2	Speed of Operation	0.16
3	Comprehensiveness	0.15
4	Ready Availability	0.14
5	Timeliness	0.13
6	Support	0.09
7	Flexibility of Use	0.05
8	User Interface	0.03
9	Capability	0.03
10	Features and Function	0.01
	C.I. =	0.88



State Sources – India – T1		
1	Telephone	0.21
2	Intelligence Briefing	0.18
3	Other Intelligence Reports	0.14
4	Radio	0.10
5	TV	0.07
6	Print Journalism	0.06
7	Other Daily Pubs	0.07
8	*NID*	0.06
9	WWW	0.06
10	E-Mail	0.05
13	*PDB*	0
13	Intelink - S	0
13	Intelink - SCI	0
	C.I. =	0.91

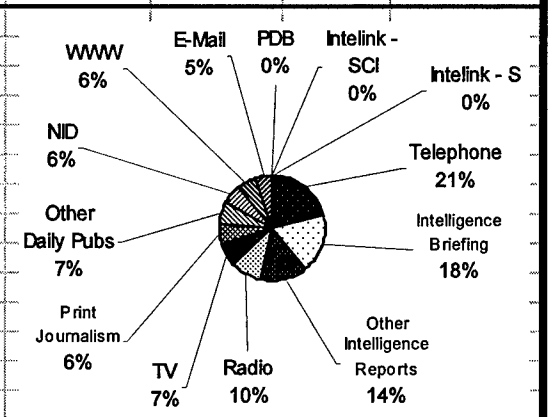


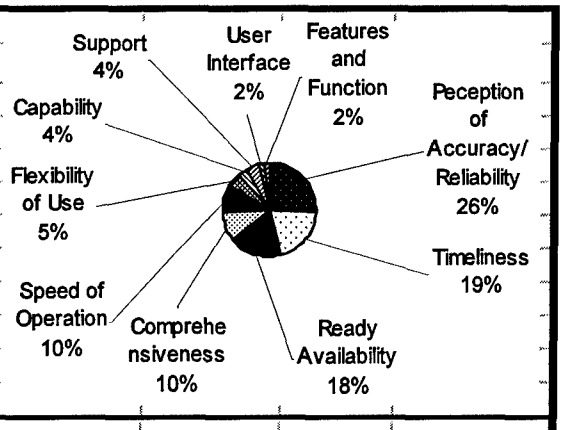
Figure 5-9

To satisfy these needs for information, with few options, this policymaker found the telephone to be the most useful source for accessing information, followed by intelligence briefings and other intelligence reports.[243] The radio was the next most useful source of information, according to the policymaker, because, according the policymaker, there was no television in the office. The official did watch at home after work hours, and also used the WWW and e-mail to get information about India's nuclear

[243] A natural question to ask is where the primary source of information, such as the newspaper or the party on the other end of the telephone conversation, is getting its information. This dissertation does not investigate this question, but if policymakers need to use a traditional source of information such as the newspaper or telephone to get access to information off the WWW, then the sheer inefficiency of that relationship is enough of a finding.

test. In the second time interval, the policymaker contributed data for the following rankings, as shown below.

State Attributes – India – T2		
1	Peception of Accuracy/ Reliability	0.27
2	Timeliness	0.20
3	Ready Availability	0.19
4	Comprehensiveness	0.10
5	Speed of Operation	0.10
6	Flexibility of Use	0.05
7	Capability	0.04
8	Support	0.04
9	User Interface	0.02
10	Features and Function	0.02
	Consistency Index =	0.84



State Sources – India – T2		
1	Telephone	0.19
2	Intelligence Briefing	0.19
3	Other Intelligence Reports	0.16
4	Print Journalism	0.10
5	Radio	0.07
6	TV	0.06
7	Other Daily Pubs	0.06
8	E-Mail	0.05
9	*NID*	0.04
10	WWW	0.04
13	*PDB*	0.00
13	Intelink - S	0.00
13	Intelink - SCI	0.00
	Consistency Index =	0.89

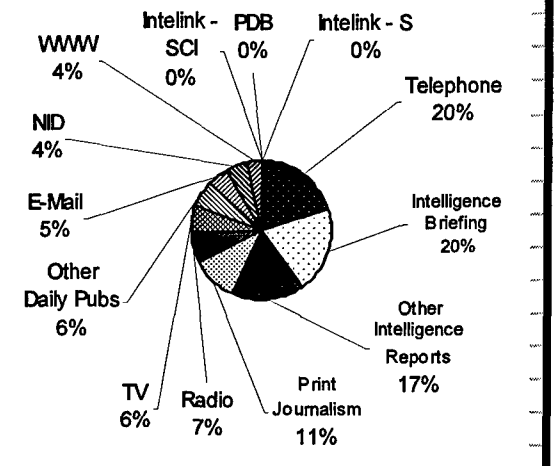


Figure 5-10

In the weeks following India's nuclear test, this policymaker still ranked perception of accuracy/reliability as the most important attribute (as did the others), but then changed preferences somewhat by ranking timeliness higher than in the first period, followed by ready availability and comprehensiveness. To satisfy these preferences, the policymaker still found the telephone the most useful source, followed by the intelligence briefing, other intelligence reports, and print journalism. These results are shown in the figure below. The consistency index is slightly below the .90 threshhold, but the

policymaker's comments presented above show he was convinced the results captured his preferences described here.

The policymaker thought the intelligence briefing was informative and of high quality, but the delay in getting access to a briefer was stressful. The intelligence reports were valuable as well, but less so. Consequently, while intelligence was still relevant to this policymaker, non-intelligence sources such as the telephone and print journalism

Summary of State Policymaker Data From The India Nuclear Test

		Ranking										
	Attributes	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	
1	Peception of Accuracy/ Reliability	2										
2	Comprehensiveness			1	1							
3	Timeliness		1			1						
4	Ready Availability			1	1							
5	Speed of Operation		1			1						
6	Flexibility of Use						1	1				
7	Support						1		1			
8	Capability							1		1		
9	Features and Function										2	
10	User Interface								1	1		

		Ranking												
	Sources	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
1	Telephone	2												
2	Intelligence Briefing		2											
3	Other Intelligence Reports			2										
4	Radio				1	1								
5	Print Journalism				1		1							
6	TV					1	1							
7	Other Daily Pubs							2						
8	*NID*								1	1				
9	E-Mail								1		1			
10	WWW									1	1			
11	*PDB*													2
12	Intelink-S													2
13	Intelink - SCI													2

Figure 5-11

were also ranked highly because they were available.

The data from this policymaker is aggregated in the matrix below. Overall, because of the grave nature of the crisis, this policymaker needed analysis that was accurate and reliable and this was consistent in both time periods. The State official's preferences for the rest of the information attributes varied somewhat between the time intervals but generally favored comprehensiveness, timeliness, readily available, and speed of operation. To satisfy these needs the policymaker's ranking reveals a preference for a mixture of intelligence and non-intelligence sources – primarily the telephone and the intelligence briefing – but once again, the most notable fact is how little effect the information revolution has had at the State Department

This individual did not rank any information age source of analysis in the top nine, but did rank the radio as the fourth most useful source – the only respondent for the Indian nuclear test to do so.[244] The advantage of the radio is its high speed of operation, since one need only activate it for it to work. At the State Department, this was an advantage.

The information revolution is not changing policymakers' use of intelligence at the State Department since policymakers at State have little or no access to the television, the Internet or to Intelink. However, their need for information is no less than at other policymaking agencies, so when foreign events created a need for information, this policymaker at the State Department exercised the best option available for getting instant access to information in the workplace, and that was to use the telephone, followed by the request for an intelligence briefing.

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[244] Given that television does not count as an information age source.

This policymaker valued information from the WWW and from television, particularly CNN, but had no access to these sources in the office (and thus relied on these sources from home which reduced their usefulness). This lack of access to information increased the individual's need for an intelligence briefing, but the pressure on the Bureau of INR to give briefings can stress the system to where there is insufficient number of briefers to satisfy demand (a consequence that was shown during the U.S. bombing of Serbia, detailed in the next section). To get a briefing from the CIA or another intelligence agency takes more time than the policymaker might have, simply because of the delay in arranging such a briefing (plus the delay of having CIA briefers travel an hour or more from CIA headquarters to the State Department).

In other agencies, the amount of instruction on using Intelink was one possible determinant on how useful the policymaker found the system. At State this is not a factor since the policymaker had no access at all to the network. This also holds for the Internet and television – two sources with access to information on events in real time, or near-real time.

Conclusions from the Indian Nuclear Test

These cases do not support the hypothesis that open source information is crowding out intelligence from supporting the policymaking process, although in some limited cases the Internet does compete with intelligence for the policymaker's attention. The results from these three cases are summarized below.

Data From the India Nuclear Test

		Ranking										
	Attributes	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	
1	Peception of Accuracy/ Reliability	6										
2	Comprehensiveness		3	1	1		1					
3	Timeliness		2	2	1	1						
4	Ready Availability			2	2	1	1					
5	Speed of Operation		1		1	2		1	1			
6	Capability					2	1	2		1		
7	Support				1		1		2	2		
8	Flexibility of Use						2	2		1	1	
9	Features and Function							1	1	1	3	
10	User Interface			1					2	1	2	

		Ranking												
	Sources	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
1	Intelligence Briefing	4	2											
2	Other Intelligence Reports			4	1	1								
3	*NID*		2		1	1			1	1				
4	Telephone	2							3		1			
5	Other Daily Pubs					2		2		2				
6	Radio				1	1	2					1	1	
7	TV					1	2		1		2			
8	E-Mail						1	3	1		1			
9	WWW		1	1						1	1	2		
10	Print Journalism				1		1	1		2			1	
11	*PDB*		1	1									2	2
12	Intelink-S				2									4
13	Intelink - SCI										1	1		4

Figure 5-12

The matrix above is divided into two sections. The top section summarizes the policymakers' rankings of the attributes of information in the two time periods (all the results from both time periods are added together here). The bottom section shows the rankings the policymakers gave to each source of analysis. The information attributes and sources are arranged in top-down order, ranked using a weighted average.

Drawing generalizations from this data is not as clear as from looking at the policymakers individually. There are strong variations between these cases because of many factors, including but not limited to personal style, and the conditions imposed on

the individuals by their agencies. However, some conclusions can be drawn. As mentioned above, all three policymakers were unanimous in selecting perception of accuracy/reliability as the most important attribute. More than anything else, these policymakers said they cannot operate on information that they believe is unreliable or inaccurate. They ranked comprehensiveness as the second most important attribute in all three cases, usually explaining that incomplete information is almost as bad as faulty information. Timeliness and ready availability were the third and fourth most important, overall because information that is late or unavailable is almost as damaging as information that is wrong or incomplete.

As suggested earlier, to satisfy these needs for information, all three policymakers found traditional intelligence useful in supporting the policymaking process, although the degree of usefulness varied by the individual. All found the intelligence briefing to be either the most or second most useful source – attributed to the high degree of expertise and reliability that intelligence briefers are considered to have. The briefing's utility varied only by the degree to which a briefing was available. When a briefing was not immediately available at State, the policymaker found the telephone more useful because it was readily available and could be used in a timely manner to access a source on the other end of the connection that had a reputation for accuracy and reliability. At the NSC and OSD where intelligence briefings were more easily secured and access to other sources is also greater, the policymakers found the telephone less useful.

Furthermore, every policymaker found Intelink less useful than intelligence analysis disseminated by traditional means, and the NSC official found it less useful than

the Internet. In fact, at the NSC, the policymaker found the WWW to be in top three most useful sources.

A major difference between the OSD and the NSC official on this issue was the level of familiarity with Intelink, although the OSD policymaker only had informal instruction on how to use the network. The State official did not have access in the workplace to either Intelink or the Internet and had to access the Internet from outside the office. The policymaker at OSD, however, was able to use Intelink and found it the most useful of the information age sources of analysis, all because there were experienced users readily available who offered informal help and training. This suggests Intelink can be of great assistance to the policymaker who knows how to find information on the network and offers to the intelligence community that greater training should be offered to policymakers.

The goal of this chapter is to determine if intelligence is still as relevant supporting the policymaking process, as was shown in the historical cases of the Bomber Gap, the Missile Gap, and the Cuban Missile Crisis described in Chapter Four. The diagram below shows the preferences of the three policymakers' surveyed for the Indian nuclear test along two specific criteria that relate to how they use information. The two-by-two matrix relates their preferences for intelligence and open source information against traditional and information age sources. Values are filled in for the policymakers surveyed above.

	Intelligence vs. Open Source	
Traditional	**Most Useful**	**Useful**
Information Age	**Least Useful**[245]	**Useful**

These three policymakers ranked traditional intelligence analysis sources as the top three most useful sources as is shown in the table above. Traditional and information age non-intelligence analysis filled in the middle positions which suggests the policymakers found these sources "useful." Information age intelligence was not useful at all at the NSC nor at State, so even though the policymaker at OSD did rank Intelink highly, that source of analysis is still overall the least useful for this group of policymakers.

The data and findings for these three cases are related to an international event that took place, start-to-finish, over the period of several weeks and it remains to be seen if policymakers exhibit the same preferences over longer events that endure for longer periods of time. This is something that can be examined in the next two foreign policy events – Serbia's crackdown on Kosovo and the WTO Ministerial in Seattle – both of which take place over periods measured in months.

Policymakers and Serbia's Crackdown on Kosovo

In March, 1998 the Yugoslav republic of Serbia began a violent repression of the Albanian majority in the Serbian province of Kosovo; a move that U.S. policymakers considered extremely serious because such a crackdown threatened to drag much of the Balkans into a greater regional war. Unlike the cases connected with India's nuclear test

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[245] This takes into account the policymaker at OSD who did find Intelink useful, but also considers the other two policymakers who did not use the system at all. This study does not weight each policymaking agency by size or by the degree to which the organization

where policymakers claim the intelligence community did not offer them adequate warning to react, intelligence agencies assessed the implications of a Serbian crackdown on Kosovo as early as 1991 and had monitored the possibility through the entire Balkan civil war that started in 1990. Intelligence analysts and foreign policy scholars around the globe all concluded that Serb action in Kosovo could draw in all the surrounding countries and destabilize most of eastern Europe. It was this analysis that led President Bush in 1992 to issue a warning to Serbia not to intervene in Kosovo. Six years later in 1998 there were numerous signs of the impending Serb military action, well-reported on by U.S. intelligence and open sources alike. Policymakers were well warned, generating a huge need for new information in the policy community.

The Clinton Administration was long indecisive, vacillating between upholding former-President George Bush's pledge to protect the Albanian majority in Kosovo, and trying to find a diplomatic or negotiated solution to the crisis. To formulate a policy, U.S. policymakers needed all manner of data and analysis to plan a response. This period during the Serb crackdown on Kosovo constitutes the first time interval to be evaluated. The key issues revolved around trying to resolve the conflict without having to resort to using military force. Aside from the costs in American lives and materiel, plus the destruction military force would create, a full-scale military operation would create waves of refugees that the Clinton Administration was concerned would create potential instability in the rest of Europe.[246]

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uses intelligence. It is possible that policymakers in OSD use intelligence far more than do those at State or in the NSC, but all organizations are assessed equally here.

[246] "UN. Official Fears Flood of Kosovo Refugees," *The Washington Post*, Mar 29, 1998.

The U.S. pursued the strategy of negotiation for an entire year, repeatedly trying to use diplomacy and "carrots and sticks" to convince Serbia, led by President Slobodan Milosevic, to stop aggression against the Albanian Kosovars. Over that year, the U.S. found there was no international support for comprehensive trade sanctions, and that unilaterally imposing trade sanctions on Serbia would have no effect if the rest of Europe still traded freely with a country in such close proximity. The U.S. during most of 1998 settled for a number of weaker policies, such as building consensus around imposing an arms embargo against Serbia, which had minor consequences since Serbia had been well armed before the policy went into place, and the Kosovars were poorly armed..[247]

Meanwhile, throughout the rest of 1998 Secretary of State Madeleine Albright tried to end the conflict through other negotiations. These effort proved to be fruitless. Serbian President Milosevic repeatedly rejected offers to meet with U.S. special envoys, cancelled meetings for planned peace talks, and overall rejected any notion that the U.S. or NATO would have any influence over the crisis.

The second key time interval covers the months in early 1999 after the U.S. committed military force under NATO authorization to drive Serbia out of Kosovo. Policymakers during the 73-day U.S.-led NATO air campaign wanted and needed information to make numerous decisions, such as whether or not to commit ground forces or accept any kind of negotiated settlement from Belgrade. The time intervals used for these are far longer than used for the Indian nuclear test, creating an opportunity to investigate how policymakers use information over longer periods of time. Furthermore, these cases allow investigation of how policymakers use open source and intelligence

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[247] "West Vows New Sanctions on Yugoslavia; Arms Supplies Also to Be Cut Unless Milosevic Opens Autonomy Talks in Kosovo,"

analysis in a case where commercial news services and concerned individuals were highly active in reporting back news and analysis from the crisis.

NSC

The NSC was responsible for coordinating policy for the Clinton Administration for this crisis, and there were several options that had to be considered. The first concern was that President George Bush in 1992 had warned Serbian President Slobodan Milosevic that Serbia must not begin new repression against the ethic-Albanian majority of Kosovo. The degree to which the current Administration would stand by the former President's warning was not at all clear. However, the reasons President Bush in 1992 made that warning still held – the potential was high for a Kosovo war to drag eastern Europe into a larger conflagration. At the very least, Serb repression against Kosovo would create new streams of Muslim refugees into the rest of Europe and inflame ethnic tensions and political instability throughout the region.

At this time frame, the policymaker needed to understand the positions of all the heads of state in the region, the range of reactions for those countries immediately involved, and for those states on the periphery. The U.S. needed to consider what it could do with the support and backing of a European coalition, and what it might be forced to do unilaterally.

To answer these questions, this policymaker most needed information he believed had a high reputation for accuracy and reliability because he felt he could not operate on false or unreliable analysis. Since events were breaking fairly rapidly, even over this long time period, timeliness was also crucial as working on outdated information would also have made him less effective. Finally, comprehensiveness was important so that the

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The Washington Post, Washington, D.C., Mar 26, 1998

official in policymaking would not have incomplete information. The policymaker's rankings of these attributes and sources of analysis as shown below in figure 5-13.

For analysis sources, this policymaker found a combination of traditional intelligence and non-intelligence sources most useful. He most wanted a combination of facts and analysis on the ongoing conflict coupled with the history of the region. The intelligence briefing was the most useful source for these needs and the policymaker praised the intelligence community for its expertise and ability to respond to tasks. However, the television was the next most useful source of information, almost entirely because of CNN's timely reporting of events as they were taking place – a feature the policymaker later claimed was not available or as useful from other sources.[248] This is consistent with the official's ranking of Timeliness as the second most important attribute and reinforces a point made in Chapter Five that open sources of information are far more useful today because international events more than ever before are now covered by global news services that broadcast events in real time. The policymaker ranked the *NID* and the telephone in third and fourth place. Intelligence received high marks and praise for supporting the policymaking process, but only in traditional forms. Aside from TV, information age sources were not very useful with Intelink and the WWW dropping to eighth and eleventh place, respectively. This suggests that with the television providing real time information, the usefulness of other information age sources decreased. Again, the official never received any training on Intelink. It remains to be seen, however, if

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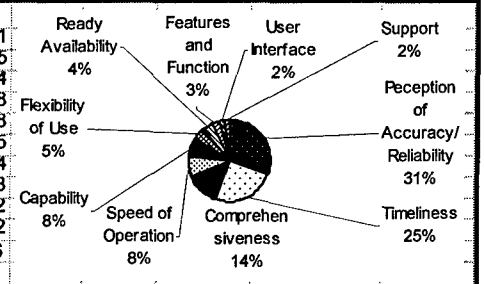
[248] This raises a question of whether television should be listed as a traditional or information age source. In this case CNN was using direct satellite communications and other information age tools to report events from the other side of the globe in real time, but the means of transmitting that information was through a traditional source. However, since the value of the TV comes from the ability to leverage information age technology to convey information on events in real time, it will still be considered an information age source of transmitting information.

these preferences hold during the phase of this event where the U.S. military was directly engaged against Serbia.

NSC Attributes – Serbia – T1		
1	Peception of Accuracy/ Reliability	0.31
2	Timeliness	0.25
3	Comprehensiveness	0.14
4	Speed of Operation	0.08
5	Capability	0.08
6	Flexibility of Use	0.05
7	Ready Availability	0.04
8	Features and Function	0.03
9	User Interface	0.02
10	Support	0.02
	C.I. =	0.86



NSC Sources – Serbia – T1		
1	Intelligence Briefing	0.21
2	TV	0.17
3	*NID*	0.10
4	Telephone	0.08
5	Print Journalism	0.07
6	Other Intelligence Reports	0.07
7	Other Daily Pubs	0.07
8	Intelink - SCI	0.07
9	E-Mail	0.06
10	Radio	0.04
11	WWW	0.04
12	*PDB*	0.01
	C.I. =	0.79

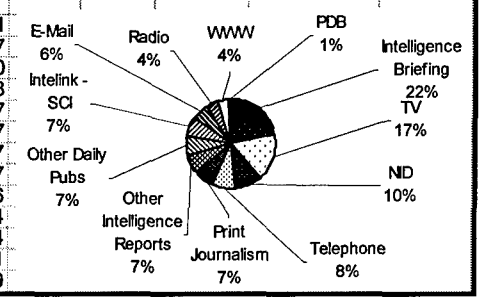


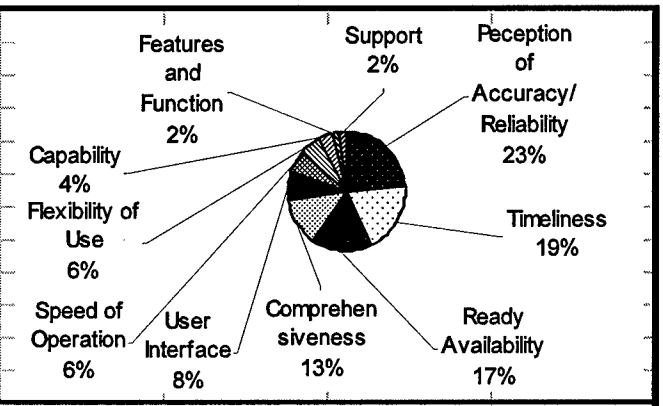
Figure 5-13

It was not until approximately one year later that the U.S. was able to marshal international will to compel NATO to act against Serbian attacks against Kosovo. That year had been marked with repeated negotiations that started and failed, or were planned and then cancelled because of intransigence on the side of Serbian President Milosevic. Keeping the coalition together during the military campaign was a serious challenge for U.S. policymakers, particularly because Russia was a natural ally of Serbia, was fighting a war against Muslims in Chechnya that Moscow saw as related to the Serb war with the Muslim Albanians, and consequently did not support the military action. Once the U.S. had formed a coalition that used military force to punish Serbia, serious setbacks had to be dealt with such as when U.S. bombers destroyed the Chinese embassy in Belgrade, and when U.S. solders were taken captive by Serbian forces. To support these

policymaking issues, the policymaker had the following priorities for information as shown below in figure 5-14.

In this time interval, the policymaker's preferences for the attributes of information were very similar to those in the first time period even though there were

NSC Attributes – Serbia – T2		
1	Peception of Accuracy/ Reliability	0.24
2	Timeliness	0.20
3	Ready Availability	0.17
4	Comprehensiveness	0.13
5	User Interface	0.08
6	Speed of Operation	0.06
7	Flexibility of Use	0.06
8	Capability	0.04
9	Features and Function	0.02
10	Support	0.02
	C.I. =	0.75



NSC Sources – Serbia – T2		
1	Telephone	0.22
2	TV	0.17
3	Intelligence Briefing	0.13
4	*NID*	0.13
5	Print Journalism	0.07
6	E-Mail	0.06
7	WWW	0.06
8	Radio	0.04
9	Other Daily Pubs	0.04
10	Other Intelligence Reports	0.04
11	*PDB*	0.02
12	Intelink - SCI	0.01
	C.I. =	0.81

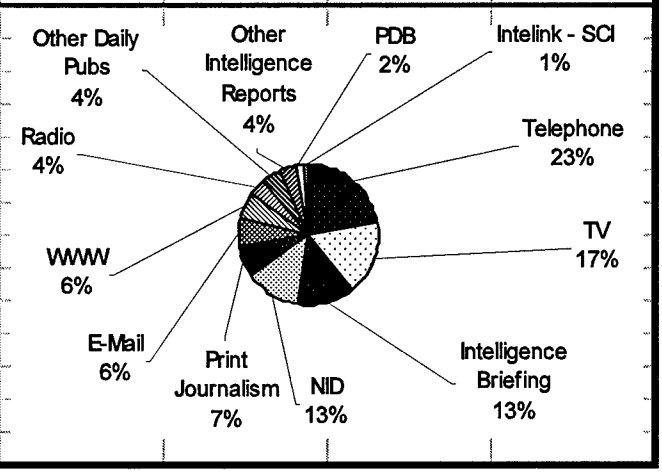


Figure 5-14

several differences. In this time period the U.S. was engaged in military action, waging an air campaign against Serbia and contemplating the use of ground forces to occupy the region. These differences had some effect on the policymaker's preferences, but the top four sources all remained in the top four, although shifted in rank order. Once again, perception of accuracy/reliability, timeliness, ready availability, and comprehensiveness all ranked in the top four important attributes.

The most significant difference in this individual's ranking of the most useful sources of information is that non-intelligence sources of analysis were the two most useful. The telephone and the television ranked first and second simply because he considered both to be conduits of reliable information, and intelligence sources of analysis were simply not timely enough to be as valuable. Events were taking place so rapidly and information from the Balkans was flowing back to the U.S. too quickly and in volume that was too great. CNN was reporting on so many issues with such detail and with live or almost-live video that keeping up-to-date meant constantly watching the television and calling those with first-hand knowledge on the telephone.

This is a facet of the "CNN Effect" explained in Chapter Five. The implication is that for this policymaker who most valued Perception of Accuracy/Reliability and Timeliness, the television became more useful than the intelligence briefing. CNN was simply timelier and more readily available than the intelligence briefing for this interval, and any differences between the two sources of information in terms of perception of accuracy/reliability were not great enough to make the briefing more useful than CNN.

As shown in the summary table below, for the first time in this examination, open sources of analysis were able to effectively compete with intelligence for the policymaker's attention, and in the second time interval, prove to be more useful than intelligence. The telephone and the television/CNN combination ranked in the top three most useful sources by being more timely than intelligence sources of analysis, and being sufficiently accurate, reliable, and comprehensive. Intelink might have been able to provide the policymaker with valuable and useful information in almost real time to compete with CNN and the telephone, but the policymaker claimed to never use it,

having never received any training on it and having found it un-useful in the past.

The conclusion for this case is that the value of intelligence sources and methods may be declining in a more open world to where they must compete with CNN for policymakers' attention, but the value of intelligence has not yet been crowded out by non-intelligence sources. Still, the data suggests that the intelligence community must be concerned that policymakers in situations like this one are finding broadcast news more useful than products from the intelligence community.

Summary of NSC Policymaker Data From Serbia/Kosovo

		Ranking									
	Attributes	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
1	Peception of Accuracy/ Reliability	2									
2	Timeliness		2								
3	Comprehensiveness			1	1						
4	Ready Availability			1				1			
5	Speed of Operation				1		1				
6	Flexibility of Use						1	1			
7	Capability					1			1		
8	User Interface					1				1	
9	Features and Function								1	1	
10	Support										2

		Ranking												
	Sources	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
1	Intelligence Briefing	1		1										
2	TV		2											
3	Telephone	1			1									
4	*NID*			1	1									
5	Print Journalism					2								
6	E-Mail						1			1				
7	Other Intelligence Reports						1				1			
8	Other Daily Pubs							1		1				
9	WWW							1				1		
10	Radio								1		1			
11	Intelink - SCI								1				1	
12	*PDB*											1	1	
13	Intelink-S													2

Figure 5-15

One more key point is that while policymakers from different agencies have

different needs for analysis; these needs vary even for a single policymaker depending on the circumstances. From one time period to the next, the intelligence briefing dropped from being the most useful source of analysis to the third most useful, and the telephone jumped from fourth to first. As information sources and forms of analysis become more specialized in the information age, policymakers will be able to further develop habits and needs for analysis that are dependent on the environment. The next section examines the policymaker at the State Department to analyze the different issues the policymaker encountered there.

State

With Secretary of State Albright taking the lead for the Administration in addressing this crisis in the first time period, the State Department had numerous tasks to address, and a tremendous need for information. The first priority was to determine what sort of response the U.S. would have to Serbia. Any military response would take a considerable amount of time to develop and implement, so it was State's duty to try and deter or punish Serbia with diplomatic measures.

Considering the constraints imposed on policymakers at the State Department, these responses, shown below, further suggest that traditional intelligence analysis is still relevant in supporting policymakers, but has to compete with other analysis sources for policymakers' attention. Ultimately, however, this data tells more about how the State Department has not adapted to the information revolution than anything about how policymakers have adapted.

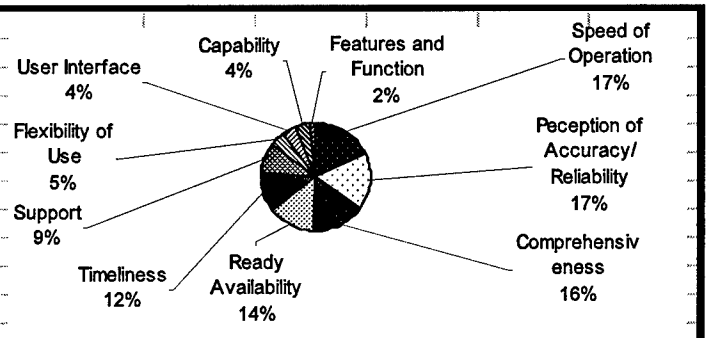
The first considerations for the State Department were to consider different policies to deter Serbia from continuing its oppression of Albanian Kosovars. Diplomatic sanctions were the immediate first option to explore, but such a policy of imposing

sanctions required international cooperation; U.S. sanctions imposed unilaterally on a European nation would have little or no effect when other European countries would continue trade. The policymaker needed information and analysis of the European economies that would be effected by sanctions – in Serbia and it's trading partners – as well as political analysis of how receptive all the involved governments would be for this

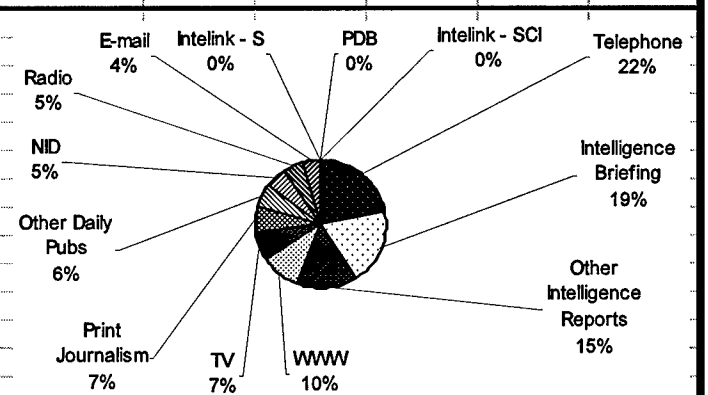
Figure 5-16

policy.

State Attributes – Serbia – T1		
1	Speed of Operation	0.18
2	Peception of Accuracy/ Reliability	0.17
3	Comprehensiveness	0.16
4	Ready Availability	0.14
5	Timeliness	0.12
6	Support	0.09
7	Flexibility of Use	0.05
8	User Interface	0.04
9	Capability	0.04
10	Features and Function	0.02
	C.R. =	0.87



State Sources – Serbia – T1		
1	Telephone	0.21
2	Intelligence Briefing	0.18
3	Other Intelligence Reports	0.14
4	WWW	0.10
5	TV	0.07
6	Print Journalism	0.06
7	Other Daily Pubs	0.06
8	NID	0.05
9	Radio	0.05
10	E-mail	0.04
13	PDB	0.00
13	Intelink - S	0.00
13	Intelink - SCI	0.00
	C.R.	0.91



This policymaker had the same needs for information as the policymaker at the NSC, but to get the analysis he thought he needed, the most important attribute of information for this policymaker was speed of operation, followed by perception of accuracy/reliability, comprehensiveness, ready availability and timeliness. This is the first instance where a policymaker did not give accuracy/reliability a top rank, and it was

because of a number of reasons. The fear of an escalation into a greater Balkan war was real so lower level interactions between governments were taking place very quickly. Furthermore, Senior level policymakers including Secretary Albright and the White House needed options for their own meetings with other heads of state. Supporting these high-level policymakers was challenging because of the challenges at State of getting access to information. Speed of operation was more critical for the State Department because getting access to information and starting the mechanisms to make it happen took a long time. Unlike timeliness that is an issue when the policymaker's access to information is out-of-date, speed of operation becomes critical when it takes time to simply get the access to the information at all.

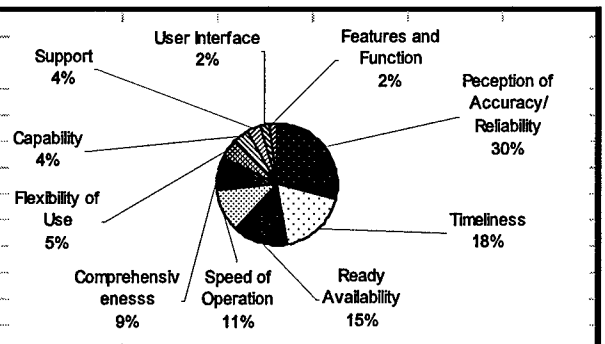
To satisfy these needs for information, the policymaker's top two most useful sources of analysis were one-to-one sources; the telephone and the intelligence briefing. The telephone was crucial because much of the official's information collection came from his own sources of information, some of them officials in foreign governments. E-mail could have been very valuable in this effort had it been available.

The intelligence briefing was still valuable as well because there was a wealth of valuable analysis on the regional politics and the history of the Serb-Kosovo tensions that the policymaker needed. The problem with relying on the briefing was that experts in the Bureau of INR available to give a briefing were in short supply, which is typical during a crisis. Briefers from CIA and DIA could have been available, but would have taken even more time since INR exists to take care of State personnel. The third most useful source of information were other intelligence reports – the second intelligence source in the top three. Television and the WWW followed, but the State Department did not give access

policymakers access to those media – the policymaker made use of them at home after hours, and by calling those with access for updates and analysis on breaking events.

This individual clearly found intelligence useful in this time period, ranking two intelligence sources in the top three, and praised the intelligence community for its expertise and breadth on the issues, but once again we see that a non-intelligence source – the telephone in this case – effectively competes with intelligence for the policymaker's attention. However, it is not possible to accurately assess how well information age sources – intelligence and open source – are competing for policymakers attention at the State Department. Since the Department does not give its policymakers real access to these sources, no conclusions can be drawn about policymakers preferences for information age sources of analysis relative to traditional sources of analysis. However, all the policymakers interviewed from the State Department expressed dissatisfaction with their access to information and all wanted greater access to the Internet and television broadcast news, but none thought they would find Intelink useful.

State Attributes – Serbia – T2		
1	Peception of Accuracy/ Reliability	0.3
2	Timeliness	0.19
3	Ready Availability	0.15
4	Speed of Operation	0.12
5	Comprehensivenesss	0.09
6	Flexibility of Use	0.05
7	Capability	0.05
8	Support	0.04
9	User Interface	0.02
10	Features and Function	0.02
	C.R =	0.84



State Sources – Serbia – T2		
1	Telephone	0.20
2	Intelligence Briefing	0.20
3	Other Intelligence Reports	0.17
4	Print Journalism	0.10
5	E-Mail	0.07
6	TV	0.06
7	Other Daily Pubs	0.06
8	Radio	0.05
9	NID	0.04
10	WWW	0.04
13	PDB	0.00
13	Intelink - S	0.00
13	Intelink - SCI	0.00
	C.R. =	0.89

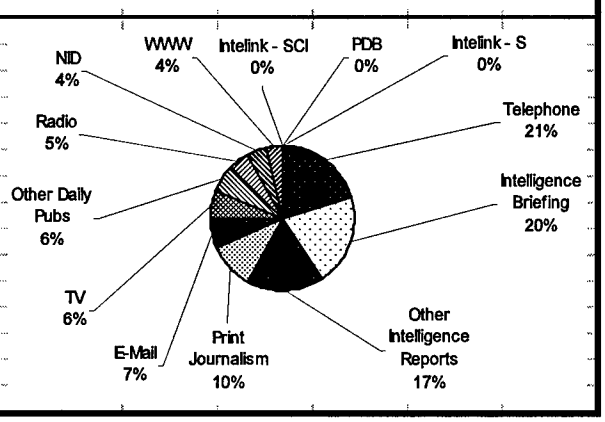


Figure 5-17

Ultimately, the initial deliberations on imposing new sanctions on Serbia failed as the U.S. was unable to secure international agreement to punish Serbia for its actions. The date of March, 1998 is important, because the group of six nations, led by the United States, gave a one month deadline for Serbia to comply. Serbian President Milosevic stalled and broke several agreements over the following ten months. In March, 1999, one year later, the U.S. was finally preparing for military action to force Serbia to halt the violence in Kosovo. The policymakers responses in the second time interval are shown above.

The role of the State Department was diminished in this time period as diplomacy failed and gave way to military action, led by the Defense Department. However, this reversal did not seem to affect the policymaker's preferences at all. In this time period the policymaker still found useful a combination of traditional intelligence and open sources, although information age sources were again less useful because they were not easily available. Perception of Accuracy/Reliability, Timeliness, Ready Availability and Speed of Operation were the most important attributes. To satisfy these needs however, the policymaker found the Telephone and the Intelligence Briefing the top two most useful sources. The telephone was important to keep in touch with the senior policymakers in the U.S. government, as well as foreign governments with whom we were working in the military operations. Other Intelligence Reports were vital for the analysis of how the bombing campaign was affecting the Serbian government, as well as for bomb damage assessments. The results for this policymaker are summarized in the figure below.

These results are not vastly different from those seen previously for other policymakers at other organizations, but the key question is whether these results would differ if policymakers at State had greater access to information age sources of analysis. The official interviewed was unequivocal in wanting access at least to CNN and the Internet, although he was less interested in getting access to Intelink since he was not highly familiar with it and was unsure how helpful it would be.

Summary of State Policymaker Data From Serbia/Kosovo

		Ranking									
	Attributes	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
1	Peception of Accuracy/ Reliability	1	1								
2	Speed of Operation	1			1						
3	Timeliness		1			1					
4	Ready Availability			1	1						
5	Comprehensiveness			1		1					
6	Flexibility of Use						1	1			
7	Support						1		1		
8	Capability							1		1	
9	User Interface								1	1	
10	Features and Function										2

		Ranking												
	Sources	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
1	Telephone	2												
2	Intelligence Briefing		2											
3	Other Intelligence Reports			2										
4	Print Journalism				1		1							
5	TV					1	1							
6	Other Daily Pubs							2						
7	WWW				1						1			
8	E-Mail					1					1			
9	*NID*								1	1				
10	Radio								1	1				
11	Intelink - SCI													2
12	*PDB*													2
13	Intelink-S													2

Figure 5-18

In analyzing the preferences for sources of information for which he did have access, this policymaker was consistent in both time periods in finding the telephone, the intelligence briefing, and other intelligence reports as the three most useful sources of analysis. While policymakers at other agencies have had varied responses in how they

ranked the usefulness of the Internet and Intelink, they also have had greater access to traditional intelligence analysis, and especially to intelligence briefers from throughout the intelligence community.

The State Department is in a situation where it has poor connectivity to the intelligence community as well as to the Internet and Intelink. State uses INR as the Department's conduit to the rest of the intelligence community, and according to the policymakers interviewed, INR is understaffed and at times is challenged to effectively serve the State Department policymaking community. If the State Department is going to rely on INR as its clearinghouse for incoming intelligence, the organization should offer its officials better access to open source analysis to give officials some ability to follow events in real time. This would have been especially valuable during the entire Serbia-Kosovo crisis as events were breaking in real time and policymakers had no ability to keep up.

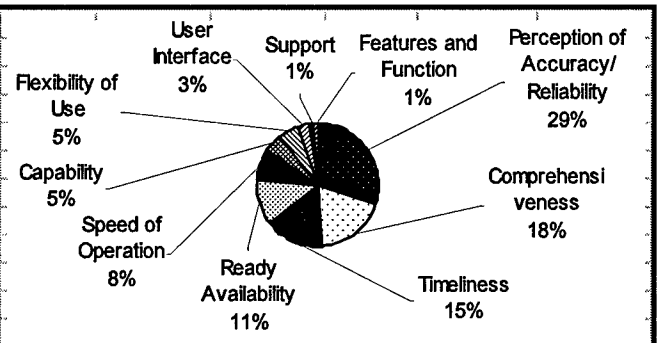
OSD

The last respondent for the Serbia-Kosovo crisis from the Office of the Secretary of Defense shows results for a policymaker with good access to traditional and information age sources of information. The situation at OSD was exactly the opposite of the State Department, in that OSD was in a secondary role in the first time period as the U.S. sought a diplomatic solution, but took the lead when the President ultimately decided to resort to military force against Serbia. The data shows a policymaker who valued intelligence first, followed by a combination of open sources and other sources of intelligence analysis, but did not value information disseminated by the Internet or Intelink.

With the State Department taking the lead with diplomatic initiatives from the

beginning of this crisis, the OSD was immediately concerned with preparing for a contingency where U.S. military forces would be deployed to retaliate against Serb forces. What the policymaker needed was analysis on the region, including all manner of familiarization with the terrain, Serbian military forces, local cultures, and political will of neighboring countries. This analysis would be valuable for influencing the policy of whether or not the U.S. should push the use of force as an option to solve the crisis, as well as preparing for the contingency of U.S. forces operating in the area, as well as for evaluating targets that the military and intelligence community would propose in the potential hostilities.

OSD Attributes – Serbia – T1		
1	Perception of Accuracy/ Reliability	0.29
2	Comprehensiveness	0.18
3	Timeliness	0.15
4	Ready Availability	0.11
5	Speed of Operation	0.08
6	Capability	0.05
7	Flexibility of Use	0.05
8	User Interface	0.03
9	Support	0.01
10	Features and Function	0.01
	C.I. =	0.91



OSD Sources – Serbia – T1		
1	Intelligence Briefing	0.25
2	Other Intelligence Reports	0.18
3	TV	0.15
4	Print Journalism	0.12
5	Other Daily Pubs	0.07
6	Radio	0.04
7	E-Mail	0.04
8	Telephone	0.04
9	Intelink - S	0.03
10	*NID*	0.03
11	WWW	0.03
12	*PDB*	0.02
13	Intelink – SCI	0.01
	C.I. =	0.83

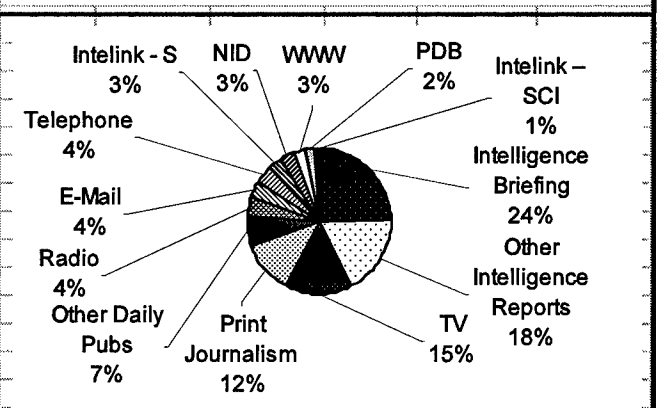


Figure 5-19

In the first time interval, shown above, the policymaker, like most others already presented, felt the most important attribute of information was the perception of accuracy/reliability, followed by comprehensiveness, timeliness, ready availability, and speed of operation. As with the OSD policymaker interviewed for the India nuclear test,

the top two analysis sources for this policymaker were the intelligence briefing followed by other intelligence reports. Securing a briefing in OSD during a crisis was not as critical a problem as it was in the State Department since there are more Defense Intelligence Agency analysts in the Pentagon available to provide briefings to senior policymakers, as well as analysts from the CIA. The policymaker found the briefings and the other intelligence reports to be very valuable. However, unlike with the India nuclear test, the third and fourth most useful sources were television and print journalism.

Television and print journalism were the most comprehensive, timely, and readily available sources of information on foreign reactions and intentions in this crisis. CNN provided the most timely information and was always readily available. Print Journalism and Other Daily Publications followed in terms of usefulness. The policymaker did not value any other information age sources at all. E-mail, Intelink, and the WWW all ranked at the bottom of the official's preferences. These preferences for information sources were consistent in the second time period as well.

In March, 1999, after over one year of trying to find some sort of alternative, the U.S. pushed through NATO a resolution to use force to end the Serbian aggression against Kosovo.[249] OSD had a year to prepare for the eventuality, but even so, once the decision was made to commit military forces, the need for information exploded beyond anything policymakers had needed previously.

During the bombing of Serbia the policymaker's preferences for the attributes of information changed somewhat, as shown above, with Perception of Accuracy/Reliability remaining the most important attribute, but with Timeliness moving up to be the second

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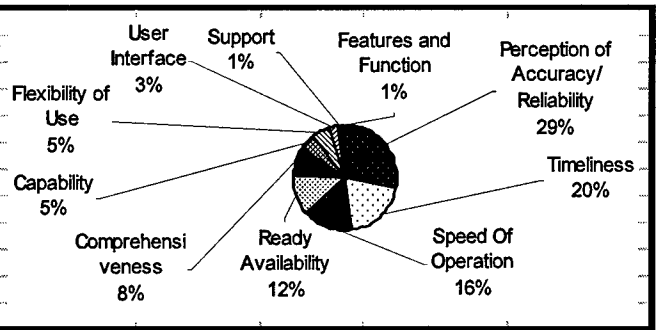
[249] "NATO Authorizes Bomb Strikes; Primakov, in Air, Skips U.S. Visit," Jane Perlez , March 24, 1999, *New York Times*, pg. A.

most important, followed by speed of operation, and ready availability. Comprehensiveness dropped from the second to the fifth most important attribute.

The intelligence briefing was still the most useful source, but the television moved up one rank to second place as televised broadcasts of the bombing of Serbia commanded more of the policymaker's attention. Other intelligence reports and the *NID* ranked third and fourth. Intelink again ranked near the bottom along with e-mail and the WWW.

OSD Attributes – Serbia – T2		
1	Perception of Accuracy/ Reliability	0.27
2	Timeliness	0.19
3	Speed Of Operation	0.15
4	Ready Availability	0.12
5	Comprehensiveness	0.08
6	Capability	0.05
7	Flexibility of Use	0.05
8	User Interface	0.03
9	Support	0.01
10	Features and Function	0.01
	C.I. =	0.91



OSD Sources – Serbia – T2		
1	Intelligence Briefing	0.25
2	TV	0.22
3	Other Intelligence Reports	0.15
4	NID	0.10
5	Other Daily Pubs	0.07
6	Telephone	0.04
7	Print Journalism	0.04
8	E-Mail	0.04
9	Intelink - S	0.03
10	Radio	0.03
11	WWW	0.02
12	PDB	0.01
13	Intelink – SCI	0.00
	C.I. =	0.83

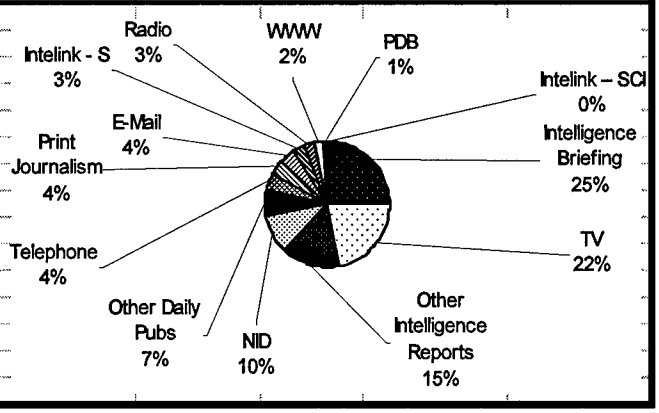


Figure 5-20

As shown above, this policymaker was similar to those already presented in wanting analysis that was accurate and reliable, timely, and comprehensive. To satisfy these needs, four of the top five sources of analysis came from the intelligence community, although all were traditional sources of analysis. Notably, the television was the second most useful source because of CNN. In spite of the value of CNN, however, this policymakers, as well as the OSD official interviewed for the India crisis, obviously

had a distinct preference for intelligence over non-intelligence sources.

The responses from this policymaker again suggest that intelligence is still relevant to the policymaker and that information age non-intelligence sources have not supplanted intelligence analysis in supporting policymakers. However, the emergence of CNN to supplement a policymaker's need for information, or dominate that need entirely, is again a factor for this policymaker as television was the second most useful source. However, traditional sources of intelligence analysis were three of the top four most useful sources so it cannot be said that television has crowded out intelligence analysis from supporting this policymaker. Information age intelligence, on the other hand, is again not very useful. Intelink-S (Intelink-SCI was not available) ranked near the bottom in both time intervals.

Summary of OSD Data From the Serbia/Kosovo

		Ranking									
	Attributes	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
1	Peception of Accuracy/ Reliability	2									
2	Timeliness		1	1							
3	Comprehensiveness		1			1					
4	Speed of Operation			1		1					
5	Ready Availability				2						
6	Capability						2				
7	Flexibility of Use							2			
8	User Interface								2		
9	Support									2	
10	Features and Function										2

		Ranking												
	Sources	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
1	Intelligence Briefing	2												
2	TV		1	1										
3	Other Intelligence Reports		1	1										
4	Other Daily Pubs					2								
5	Print Journalism				1			1						
6	Telephone						1		1					
7	*NID*				1						1			
8	E-Mail							1	1					
9	Radio						1				1			
10	Intelink-S									2				
11	WWW											2		
12	*PDB*												2	
13	Intelink - SCI													2

Figure 5-21

Conclusions From The Serbian Crackdown on Kosovo

These cases do not support the hypothesis that open source information is crowding out intelligence from supporting the policymaking process, although these three cases do show that information age open sources do compete with intelligence analysis for policymakers' attention. The results from these three cases are summarized below.

Data From the Serbia Crackdown on Kosovo

		Ranking									
	Attributes	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
1	Peception of Accuracy/ Reliability	5	1								
2	Timeliness		4	1		1					
3	Comprehensiveness		1	2	1	2					
4	Speed of Operation	1		1	2	1	1				
5	Ready Availability			2	3			1			
6	Flexibility of Use						2	4			
7	Capability					1	2	1	1	1	
8	User Interface					1			3	2	
9	Support						1		1	2	2
10	Features and Function								1	1	4

		Ranking												
	Sources	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
1	Intelligence Briefing	3	2	1										
2	TV		3	1		1	1							
3	Telephone	3			1		1		1					
4	Other Intelligence Reports		1	3			1				1			
5	Print Journalism				2	2	1	1						
6	*NID*			1	2				1	1	1			
7	Other Daily Pubs					2		3		1				
8	E-Mail					1	1	1	1	1	1			
9	Radio						1		2	1	2			
10	WWW				1			1			1	3		
11	Intelink-S									2				4
12	Intelink - SCI								1				1	4
13	*PDB*											1	3	2

Figure 5-22

For these three policymakers, accuracy and reliability was the most important attribute five out of six times. Only the State Department official during the Serb crackdown on Kosovo ranked Speed of Operation higher than Perception of Accuracy/Reliability. Timeliness ranked second or third place five out of six times suggesting these policymakers' preferences for information attributes was similar to those

involved with the Indian nuclear test. Their preferences for information sources were not as similar however.

While these policymakers found intelligence briefings very useful, non-intelligence sources of analysis seemed to have become almost as useful in some circumstances. All three policymakers in the two time periods ranked the intelligence briefing as the first or second most useful source of information five out of six times, again citing the expertise of the intelligence briefers and the ability to interact with the briefer directly. However, the television ranked second three times, and third place once, mostly, if not entirely, because of CNN. This made the television the second most useful source overall. Unlike the India nuclear crisis, this was a foreign policy event where television broadcasts had excellent access to the area where the event was taking place. CNN and other news services could broadcast live from the war zone and that was a kind of coverage that allowed television news to report analysis with which the intelligence community could not compete. This is an effect of the changing nature of world events coupled with information age technology to report events in real time.

At State in both time periods, and at the NSC during the NATO bombing of Serbia, the policymakers ranked the telephone as the most important source of information and this made the telephone the third most useful source. It must be noted that in these cases traditional sources of intelligence analysis were close in usefulness, although in all but one instance, all three policymakers placed at least two intelligence community sources in their top three at every time interval.

Neither the Internet nor the intelligence community's supposed future of intelligence dissemination, Intelink, ever was ranked as a significantly useful source of information. This analysis leads to the following conclusions.

	Intelligence	**vs. Open Source**
Traditional Vs. Information Age	**Very Useful**	**Useful**
	Not Very Useful	**Very Useful**

With the intelligence briefing repeatedly scoring as the most useful source of analysis, traditional intelligence had to be ranked highly, although none of the other traditional sources of intelligence analysis scored as highly as the television, or to a lesser degree, the telephone. Therefore, the aggregate assessment for these three policymakers is that they found both traditional intelligence and information age open sources as very useful, and traditional non-intelligence sources, i.e.; the telephone, as useful. With Intelink scoring low in the rankings again, information age intelligence again is assessed as being not very useful. There are several reasons why this may have occurred.

More than in the cases related to India's nuclear test, these three cases display policymakers who had a mix of preferences for different sources of information. These cases were different from those involved with India because the events took place over a much longer period of time, and open source information organizations had a much greater opportunity to report events and breaking developments as they took place. Because of these differences, many of the salient features of the information revolution as described in Chapter Five affected the policymaking environment. As opposed to the Indian and Pakistani nuclear tests that were a surprise and could only be covered after

they actually happened, news organizations during the Serb crackdown on Kosovo and U.S. air campaign were able to report from the areas of the fighting in real time.

Because of the importance of this policy issue, all three respondents ranked perception of accuracy and reliability as their most valuable information attribute, but all ranked Timeliness and Speed of Operation as the next most important, most likely because of the gravity of making decisions in a humanitarian crisis and then during a large-scale U.S. bombing campaign. To satisfy the need to accurate and reliable information policymakers still wanted an intelligence briefing because they all found the analysis from the intelligence community to be highly valuable and they also wanted the interactivity with the briefer, but they also found CNN to be vital as well. The ability of television to stream video of ongoing events from reporters anywhere in the world was highly valuable to policymakers and was something the intelligence community could not provide. This is a capability that will be increasingly found on the WWW as data transfer rates increase through the proliferation of broadband Internet connections. Intelink could provide the real time updates of events from open sources and provide a fuller picture with data clandestinely collected from classified sources and methods, and could also provide interactivity via instant messaging, but policymakers are not using Intelink and the intelligence community is not populating Intelink with the analysis policymakers need.

Policymakers And The WTO Ministerial in Seattle

The final set of cases differs from the first two because they do not relate in any way to national security as defined by military events. The 1999 WTO Ministerial in Seattle was supposed to open a three-year round of global negotiations on lowering trade barriers between the proposed member states to the WTO. The stakes were high for the

gathering, as the failure to meet preliminary goals would have delayed future meetings to complete the multinational trade compact. U.S. policymakers were under tremendous pressure from American industry to negotiate away other nations' trade barriers that would further open foreign markets to American exports. Labor unions and other industries also were pressuring policymakers to protect American agriculture and specific markets that benefited from American barriers to foreign trade.

One key component for U.S. policymakers to formulate a trade negotiating strategy was to learn the will of American industry and interest groups such as labor unions. Information on these topics and policymakers' need for that information pertains to domestic concerns and are not part of foreign intelligence. Therefore policymakers' use of information about domestic U.S. issues is not covered. The second key component for U.S. policymakers was to learn the domestic concerns of the foreign WTO member-countries with whom the U.S. would be negotiating, as well as foreign governments' negotiating strategies, and these issues are the foci of these case studies.

As described earlier, the two time periods were chosen arbitrarily but with some rationale. According to policymakers involved with formulating U.S. trade positions for their respective agencies, preparations for the Seattle ministerial began early in 1999 but were not seriously addressed because most of the U.S. trade negotiating effort was devoted to negotiating bilaterally with China to arrange for it's acceptance into the WTO. Preparations for the Seattle ministerial did not seriously begin until the talks with China were finalized in August, which marks the beginning of the first time period. The key feature of this time period is that in sharp departure to the first two foreign policy events, this time period is not marked by any rush to action or frantic environment. In fact, the

policymakers interviewed explained that this time period could be described as a down time, or "calm-before-the-storm." This makes it an interesting time period to examine to see if this affects how the officials use information.

The first time period extends until the beginning of November 1999 when policymakers escalated their efforts to prepare for the Seattle meeting to the exclusion of most other trade-related duties. This second time period extends from November 1999 until the beginning of the WTO ministerial, which does not imply that policymakers did not need information during the meetings. Quite the contrary, policymakers during trade negotiations typically have strong needs for information. However, since these case studies focus on how policymakers used information to prepare for the WTO ministerial, it is consistent to limit their use of information up to the beginning of the event. The policymakers interviewed for this dissertation believed this to be reasonable.

For this section policymakers from the Department of the Treasury and the National Security Council provided responses that will be analyzed below. An official from the Office of the U.S. Trade Representative (USTR) had agreed to participate but later refused, and no other official from USTR responded to any further contact. An alternative option would have been to use an official from the State Department but this would have been a weak option that would have provided very little new insight. The State Department had not equipped its policymakers with any methods to access modern information age sources, as pointed out in the Center for Science and International Studies (CSIS) report Reinventing Diplomacy in the Information Age by Burt and Robinson (cited in Chapter Five) and corroborated by data already presented earlier in this chapter. Consequently, using another State Department official would not have

contributed much to the relevance of information age sources of information supporting the policymaking process. The Commerce Department was considered as an alternative, but foreign policy is such a small part of its mission – and its access to intelligence is even less than at State or at Treasury – that it was rejected. Consequently this set of cases uses only two policymakers instead of three, but this does not affect the previous analysis in any way, nor are these cases being compared in any quantitative way that would depend on three policymakers being interviewed for each foreign policy event.

NSC

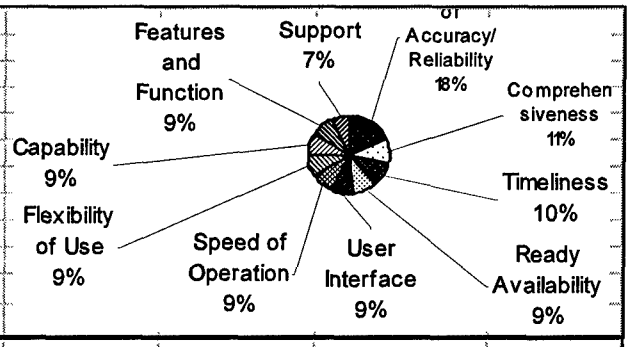
The results from this policymaker at the NSC reflect an individual with shifting preferences who in the first interval valued a mixture of intelligence and non-intelligence sources, but who in the second time interval when the need for information was far greater placed a higher value on non-intelligence sources.

Moving into early preparations for the Seattle Ministerial, the role of the National Security Council as a key player in international trade negotiations had been established in the previous year during the long negotiations with Beijing over China's admission to the WTO. The Clinton Administration had long stated that as the first true post-Cold War Administration, economic and trade security would be treated as important as other, traditional national security policy areas. This proved to be true.

The Office of the USTR was responsible for conducting the direct negotiations with the Chinese, and in fact, the U.S. Trade Representative herself, Charlene Barshefsky, was handling the negotiations personally, along with National Economic Advisor Gene Sperling. It had been USTR's position to take a hard line with China. Beijing's goals were predictably to open up foreign markets as much as possible, while limiting as much as possible foreign access to within Chinese markets. The Chinese

desire to protect its industries from foreign competition was not unique, as the U.S. was under domestic pressure to protect the steel industry, as well as several others, from Asian competition.[250] The difference was that the NSC had assessed that Chinese Premier Zhu Rongji had tied his political fortune to Chinese admission to the WTO. The NSC, along with the State Department, taking the long term view did not want to undermine the Premier's authority, the consequences of which could have ended the Premier's leadership of China, ushered in new, anti-foreign trade leaders in Beijing, and damaged U.S. Chinese relations for years.[251] The NSC showed its influence by tempering the USTR's more aggressive stance and heavily influencing the negotiations with Beijing. Having firmly established its role in this arena, the NSC began to prepare for the upcoming Seattle Ministerial.

NSC Attributes – WTO – T1		
1	Peception of Accuracy/ Reliability	0.18
2	Comprehensiveness	0.11
3	Timeliness	0.10
4	Ready Availability	0.09
5	User Interface	0.09
6	Speed of Operation	0.09
7	Flexibility of Use	0.09
8	Capability	0.09
9	Features and Function	0.09
10	Support	0.07
	C.R.. =	0.91



NSC Sources – WTO – T1		
1	Other Intelligence Reports	0.21
2	Telephone	0.18
3	Other Daily Pubs	0.14
4	E-Mail	0.08
5	Intelligence Briefing	0.07
6	Print Journalism	0.06
7	Intelink - SCI	0.06
8	Radio	0.05
9	NID	0.05
10	PDB	0.04
11	TV	0.03
12	WWW	0.02
13	Intelink-S	0.00
	C.R. =	0.95

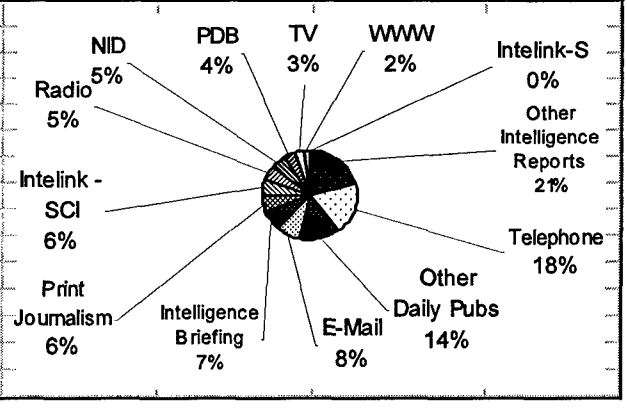


Figure 5-23

[250] "Roller-Coaster Ride' to an Off-Again, On-Again Trade Pact," John H. Harris, *The Washington Post,* November 16, 1999, pg. A26.

The results from this time period, shown above in figure 5-23, differ from the previous cases in several respects. Most importantly, time, in this period, was not of the essence for gathering information and making decisions which is a strong departure from the previous cases. In fact, in this time period, while the official did have responsibility and a need to begin collecting information to support important decisions that needed to be made for the Seattle Ministerial, those decisions were secondary to the China negotiations. The policymaker's preferences will reflect this. Also of key importance is that this foreign policy issue was not a crisis of national security as it has been traditionally defined, but is instead an issue of vital economic trade issues. This will also affect how the policymaker preferred and used information.

With the caveats mentioned earlier, the data suggest that intelligence was still useful to this policymaker, and information age sources of analysis –intelligence and otherwise – have not crowded out traditional intelligence. Similar to those policymakers already presented, this individual at this time period most valued information with a reputation for accuracy and reliability, comprehensiveness, timeliness, and ready availability.

To satisfy this need, this policymaker 's preferences suggest that intelligence competes for policymakers attention at the Treasury Department. While three of the top five most valuable sources were traditional forms of intelligence analysis, and other intelligence reports was the most useful source of information, the telephone was the second most useful. Electronic mail was the fourth most useful source of information

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[251] "To Brink and Back: In Historic Pact, U.S. Opens Way for China To Finally Join WTO --- With Deal, Bigger Market Beckons, but Washington Falls Short on Telecom --- New Words for Old Songs," Helene Cooper, Bob Davis, Ian Johnson, *Wall Street Journal*, November 16, 1999, pg. A1:6.

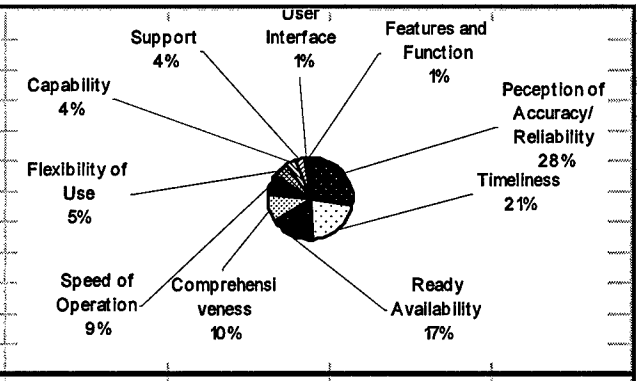
and in a departure from most other respondents, the intelligence briefing earned a relatively low ranking of fifth. Intelink was not very useful, ranking seventh in spite of the NSC's access to Intelink-SCI.

The low ranking for the intelligence briefing was surprising because while some policy agencies have poor access to intelligence briefers, the NSC has excellent access, and policymakers so far have generally ranked the intelligence briefing as one of the most useful sources. In a follow-up interview this policymaker stated that while the number of intelligence community briefers available for other policy areas is substantial, the number available for trade and economic issues is more limited. When the NSC requested intelligence briefings for the WTO Ministerial, intelligence officers were at times in short supply. Even more significant was the NSC official's belief that when a briefing was available, the intelligence community briefers had less expertise in trade issues and knowledge of key information than the policymaker, and the briefers were less knowledgeable and savvy about what the policymaker needed to know. Overall, this data suggests that intelligence may still be useful to this policymaker, but it has to compete not only against non-intelligence sources, but against its own limitations and reputation.

In the second time interval, shown below , the policymaker's preferences changed substantially, reflecting an individual who relied more on a mixture of open sources than on intelligence analysis. At this time interval, non-intelligence sources have clearly become more useful than intelligence analysis, although this can be explained by several factors later in this section. The policymaker's preferences for the attributes of information were consistent with the earlier time period - perception of accuracy/reliability, comprehensiveness, timeliness, and ready availability all ranked in

the top three, but the individual's preferences shifted to reflect a stronger preference for non-intelligence sources.

NSC Attributes – WTO – T2		
1	Peception of Accuracy/ Reliability	0.28
2	Timeliness	0.21
3	Ready Availability	0.17
4	Comprehensiveness	0.10
5	Speed of Operation	0.09
6	Flexibility of Use	0.05
7	Capability	0.04
8	Support	0.04
9	User Interface	0.01
10	Features and Function	0.01
	C.R.. =	0.91



NSC Sources – WTO – T2		
1	Telephone	0.22
2	E-Mail	0.16
3	Other Daily Pubs	0.15
4	Other Intelligence Reports	0.13
5	Intelink - SCI	0.07
6	Intelligence Briefing	0.06
7	Print Journalism	0.05
8	NID	0.04
9	PDB	0.04
10	Radio	0.03
11	TV	0.03
12	WWW	0.02
13	Intelink - S	0
	C.R. =	0.89

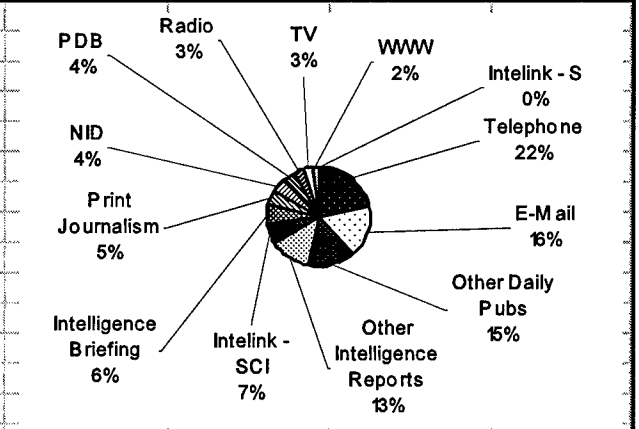


Figure 5-24

The Telephone and E-mail were the two most useful sources of analysis in the weeks leading up to the WTO Ministerial. The most useful source of intelligence analysis, other daily publications, ranked third. Other Intelligence Reports ranked fourth and Intelink-SCI ranked fifth. In a total departure from all other policymakers, this individual found the intelligence briefing to be even less useful in this period than Intelink.

This policymaker's rankings of the usefulness of intelligence analysis are far lower than the NSC officials interviewed for the Indian nuclear test and the Serbian crackdown on Kosovo, and in fact are the lowest scores so far for sources of intelligence

analysis. These scores are for the time interval covering the more crucial period for crafting U.S. negotiating strategy. Even with the best access to the full spectrum of intelligence products, this policymaker's top two most useful sources of analysis were a combination of traditional and information age non-intelligence sources.

As useful a tool as e-mail and the telephone can be, explanations must be considered to explain these results, especially considering how low the intelligence briefing scored compared to most of the other respondents. In a subsequent interview, the policymaker again expressed the view that the intelligence community's strength in economic issues was insufficient for his needs, and this made intelligence less useful. This policymaker's views are not the first to question the intelligence community's commitment to focusing its resources on economic and trade policy issues.[252] A summary of this policymaker's responses are presented in the table above.

While this data does not support the hypothesis that information age open sources are crowding intelligence analysis out of its role in supporting foreign policy, this is the strongest case so far that shows non-intelligence sources strongly competing for policymakers' attention, and in the second time interval even dominating that attention. This is a prime case where the policymaker found non-intelligence sources at least as useful as those from the intelligence community, and even though the official had access to the widest selection of information age sources, he did not find them as useful as traditional ones. It is important to note the difference between this case dealing with international trade policy, and those described earlier that dealt with more traditionally defined national security issues. The next and final case of this dissertation dealing with

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[252]see "Seeking Economic Security Through Intelligence," *International Journal of Intelligence and CounterIntelligence*, Vol. 11, #4, pg. 385.

the policymaker from Treasury, will shed more light on how intelligence supports this kind of foreign policy issue.

Summary of NSC Data From the WTO Ministerial													
		Ranking											
	Attributes	1	2	3	4	5	6	7	8	9	10		
1	Peception of Accuracy/ Reliability	2											
2	Timeliness		1	1									
3	Comprehensiveness		1		1								
4	Ready Availability			1	1								
5	Speed of Operation					1	1						
6	Flexibility of Use						1	1					
7	User Interface					1				1			
8	Capability							1	1				
9	Support								1		1		
10	Features and Function									1	1		
		Ranking											
	Sources	1	2	3	4	5	6	7	8	9	10	11	12	13
1	Telephone	1	1											
2	Other Intelligence Reports	1			1									
3	E-Mail		1		1									
4	Other Daily Pubs			2										
5	Intelligence Briefing					1	1							
6	Intelink - SCI					1		1						
7	Print Journalism						1	1						
8	*NID*								1	1				
9	Radio								1		1			
10	*PDB*									1	1			
11	TV											2		
12	WWW												2	
13	Intelink-S													2

Figure 5-25

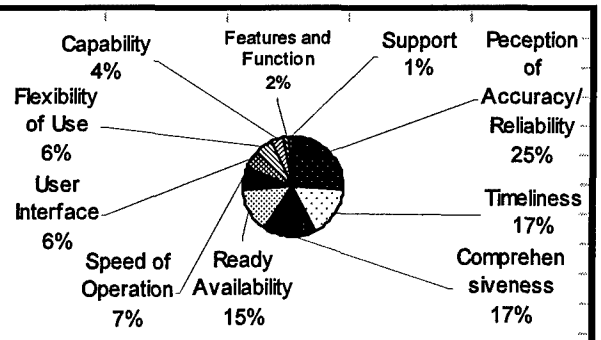
Treasury

The Treasury Department is distinct from the other organizations covered for this study because the agency does not have comprehensive, frequent, or easy access to intelligence, as discussed in Chapter Six, and yet the Department does provide decisionmakers with good access to open source information. The results from this case show a policymaker who had needs for information similar to those policymakers in other organizations, and yet relied primarily on a mixture of traditional and information

age non-intelligence analysis. This individual's responses from the first time interval are summarized below.

In the first time interval. the policymaker wanted information that primarily had a

Treasury Attributes – WTO – T1		
1	Peception of Accuracy/ Reliability	0.26
2	Timeliness	0.17
3	Comprehensiveness	0.17
4	Ready Availability	0.15
5	Speed of Operation	0.07
6	User Interface	0.06
7	Flexibility of Use	0.06
8	Capability	0.04
9	Features and Function	0.02
10	Support	0.01
	C.I. =	0.79



Treasury Sources – WTO – T1		
1	Telephone	0.22
2	E-Mail	0.19
3	Print Journalism	0.11
4	Intelligence Briefing	0.10
5	WWW	0.09
6	NID	0.06
7	TV	0.05
8	Radio	0.04
9	Other Intelligence Reports	0.04
10	Other Daily Pubs	0.03
11	Intelink - SCI	0.00
12	PDB	0.00
13	Intelink - S	0.00
	C.I =	0.78

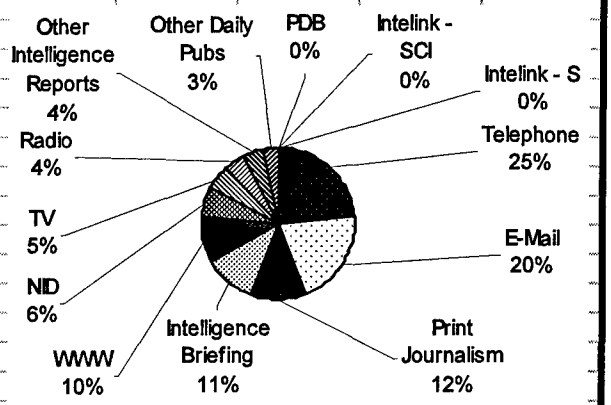


Figure 5-26

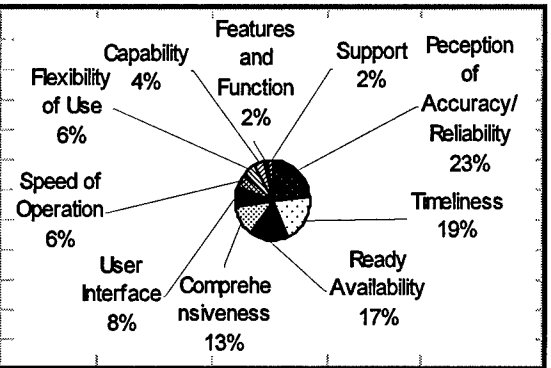
reputation for accuracy and reliability, followed by information that was timely, comprehensive, and readily available. To satisfy these needs, the policymaker almost entirely relied on non-intelligence sources with the exception of the intelligence briefing. The telephone was the most useful source, followed by e-mail and print journalism. The intelligence briefing ranked fourth, followed by the WWW, and the *NID* ranked sixth.

While non-intelligence sources were clearly more useful to the policymaker than intelligence sources, this data does not clearly show that non-intelligence sources are replacing intelligence sources. Instead, the policymaker in this case most relied on a

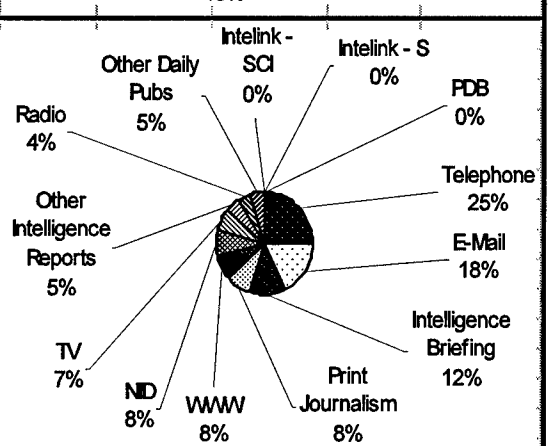
mixture of traditional and information age sources – the telephone and e-mail – followed by print journalism which the policymaker considered just slightly more useful than the

Figure 5-27

Treasury Attributes – WTO – T2		
1	Peception of Accuracy/ Reliability	0.24
2	Timeliness	0.20
3	Ready Availability	0.17
4	Comprehensiveness	0.13
5	User Interface	0.08
6	Speed of Operation	0.06
7	Flexibility of Use	0.06
8	Capability	0.04
9	Features and Function	0.02
10	Support	0.02
	C.I. =	0.77



Treasury Sources – WTO – T2		
1	Telephone	0.25
2	E-Mail	0.18
3	Intelligence Briefing	0.12
4	Print Journalism	0.08
5	WWW	0.08
6	NID	0.08
7	TV	0.07
8	Other Intelligence Reports	0.05
9	Radio	0.04
10	Other Daily Pubs	0.05
11	Intelink - SCI	0.00
12	PDB	0.00
13	Intelink - S	0.00
	C.I. =	0.18



intelligence briefing.

In the second time interval, shown above, the policymaker's rankings changed somewhat, but are generally consistent with the first time period. This policymaker valued information that was accurate and reliable, timely, readily available and comprehensive and to satisfy these needs found the telephone and e-mail the most useful sources. Print journalism and the intelligence briefing were the next most useful sources and almost equally valuable, suggesting that the value of the briefing in this case was

almost equal to that of press reporting. A summary of these results from both periods is found in the table below.

Summary of Treasury Data From the WTO Ministerial

		Ranking									
	Attributes	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
1	Peception of Accuracy/ Reliability	2									
2	Timeliness		2								
3	Comprehensiveness			1	1						
4	Ready Availability			1	1						
5	Speed of Operation					1	1				
6	User Interface					1	1				
7	Flexibility of Use							2			
8	Capability								2		
9	Features and Function									2	
10	Support										2

		Ranking												
	Sources	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
1	Telephone	2												
2	E-Mail		2											
3	Intelligence Briefing			1	1									
4	Print Journalism			1	1									
5	WWW					2								
6	*NID*						2							
7	TV							2						
8	Other Intelligence Reports								1	1				
9	Radio								1	1				
10	Other Daily Pubs										2			
11	Intelink - SCI													2
12	*PDB*													2
13	Intelink-S													2

Figure 5-28

This data shows a policymaker who had preferences similar to the other policymakers for the attributes of information, but first and foremost found the telephone and e-mail most useful. The intelligence briefing was the third most useful source, tied with print journalism. This data suggests that the policymaker is not using information age open sources to supplant intelligence, but is instead finding traditional open sources to be more useful. Both policymakers interviewed for this foreign policy event were critical of the support they received from the intelligence community – of both the

quantity and the quality of the support. Therefore, it is more likely that this low level of support for foreign trade and international economic policy makes intelligence less useful in this foreign policy area, as opposed to any introduction of information age technology into the policy community.

Conclusions From The WTO Ministerial

The data from these two cases are summarized in the table below.

Similar to the policymakers in the other foreign policy events, these two officials at both time intervals both wanted information that was accurate and reliable, timely, comprehensive and readily available. The most useful sources were the telephone, e-mail, the intelligence briefing, and print journalism. All of these are traditional sources and only one comes from the intelligence community. This suggests that an overall summary of the preferences of these two officials could be depicted as below.

	Intelligence	**vs.**	**Open Source**
Traditional Vs. Information Age	**Useful**		**Most Useful**
	Not Very Useful		**Useful**

A significant finding for these cases is that even in an area where the intelligence community by many accounts does not compete very effectively for policymakers'

Figure 5-29

attention, policymakers with excellent access to the Internet and WWW are still relying mostly on the telephone. Both did find e-mail to be useful but not the Web, and certainly not Intelink (the NSC had access to it, the Treasury official did not).

In any case, once again data from these cases cannot support the hypothesis that policymakers more and more are relying more on information age open sources to get analysis, but the data does show that intelligence sources were not as useful as non-intelligence sources at these agencies for these policymakers working on the U.S> trade strategy for 1998 WTO Ministerial. There are a number of conclusions that can be drawn from the analysis presented here, as well as policy recommendation which will be presented in the concluding chapter.

Chapter Six – Conclusions and Recommendations

Summary

This dissertation tries to answer the question of whether national level, civilian policymakers still rely on intelligence analysis to support the creation U.S. foreign policy. Non-intelligence sources of analysis have become so advanced, broadcasting their information in real time via the Internet or satellite feed to constantly reporting news services such as CNN, that it is possible policymakers have found intelligence no longer has any competitive advantage.

Chapter One presents a declassified intelligence community satellite photo of a Soviet missile base in 1960, and compares it to commercially available satellite photos of a North Korean ICBM base today. This is the sort of information that in the past was available only to the highest level of policymaker, and was focused only on the most pressing of national security issues. If this sort of data and analysis is openly and readily available to anyone, it begs the question of whether the intelligence community has been able to adapt over time to support policymakers in ways that commercial and other information age, non-intelligence sources of analysis cannot. If the intelligence community has not adapted, and non-intelligence sources have developed tools and methods to provide similar (or even superior) information in faster time cycles than can intelligence agencies, than the relevance of the intelligence community today must be questioned.

This reasons leads to the following three research questions.

Research Question #1: ***How have foreign policy agencies, offices, and departments of the U.S. Federal Government adopted modern technology to access information?***

Research Question #2: ***How has the U.S. intelligence community adopted information age technology to compete with new, open source competitors?***

Research Question #3: ***How is the information revolution affecting the intelligence community's ability to support policymakers with data and analysis? Is the intelligence community being crowded out of its role in supporting policymakers by other sources of information?***

This dissertation attempts to answer these questions by testing the following hypotheses.

1. ***The intelligence community has not adapted information revolution technology in disseminating intelligence.***
2. ***The policymaking community's information needs have compelled a shift towards information from commercial and web-based, open sources of information.***
3. ***As a consequence, the intelligence community is becoming less relevant in supporting the foreign policymaking process and needs to better adapt to the information age.***

The rest of the research effort sets out in a systematic way to examine these issues.

Chapter Two discusses how policymakers use information, citing authors who have asserted that decisionmakers who make important decisions in the face of uncertainty are subjected to tremendous stress, and to relieve this stress they strive to get the highest quality information. Former policymakers and intelligence officials alike concur that the intelligence community has traditionally been the most reliable, useful, and accessed source of that high quality information.

The case studies of the Bomber Gap, the Missile Gap, and the Cuban Missile Crisis in Chapter Three illustrate how intelligence analysis, early in the modern era of foreign policy, was able to evolve its role as the premier source of analysis for the policymaking community. All three cases were the focus of the most serious national security issues of the time – the strength of Soviet strategic nuclear forces. Many different sources offered analysis to policymakers, ranging from the press, think tanks

(including RAND), and the United States military. The case studies present the analysis from all of these sources but the intelligence community – relying on photography from the U-2 reconnaissance plane and the CORONA reconnaissance satellite, as well as reports from GRU Colonel Oleg Penkovskiy – was able to provide policymakers with analysis that gave them the best insight into the USSR that enabled them make foreign policy decisions with certainty about the strength of Soviet nuclear forces. The credibility the intelligence community built from these events helped shape institutional biases that the policy community may have held even up to today. These will be compared in later chapters to three modern cases to analyze how the information revolution may have changed policymakers use of intelligence analysis.

Chapter Four presents the information revolution as a potential exogenous shock to the relationship between the intelligence and policy communities that could change the fundamental value of intelligence to policymakers. New sources of freely available information and the technology to access it from anywhere in the world in real time may be crowding out intelligence from its traditional role. The modern information age (there have been several thorough out history, including when Guttenberg invented the printing press) is a function of the merging of three factors – the rapid technological advances in computing, coupled with advances in telecommunications, both coming together making the Internet possible, all linked with the end of the Cold War which opened up much of the world that had been closed off for fifty years by the Soviet empire. Intelligence traditionally has not been able to operate with the kind of responsiveness and global coverage that new news agencies can today, and it is questionable if it can distribute its product with the same timeliness.

Policymakers operate in a frenzied environment with scarce time, operating in what can be called an "information economy." With so much information available, a tremendous need to stay informed, and very little time to access information, policymakers must *spend* their time judiciously, *paying* attention only to those sources of information that are *valuable* enough to be *worth* their time.

The intelligence community has developed many means of disseminating analysis to policymakers, including numerous written products, live briefings, and a modern classified intranet linking intelligence analysts and policymaker. In response to the explosion of information in the late-1990's, the intelligence community created its own top secret internet called Intelink. There is documentation that supports the assertion that Intelink was created to be the future of real time intelligence dissemination. With the creation of Intelink as the intelligence community response to supporting policymakers in the information age, the question remains of whether or not intelligence is being crowded out of its traditional role of supporting policymakers.

The policymaking agency where an official works is a key determinant to defining the effect of the information revolution on policymakers' behavior.. Not all agencies have the same connectivity to information age sources of analysis. An examination of the following four agencies –

- National Security Council
- Department of Defense
- Department of State
- Department of the Treasury

– shows that the NSC has the best connectivity, the State Department has the worst, and the DoD and Treasury fall in the middle. Given these constraints, the question remains what sources of analysis do policymakers access when confronted with a foreign policy

event that demands they become informed in order to make the best decisions. Three foreign policy events were chosen, shown below, and policymakers were surveyed about what attributes or characteristics of information they most wanted, and what sources of information they found most useful.

Foreign Policy Events
1. Indian Nuclear Test (1998)
2. Serb Crackdown on Kosovo (1998-1999)
3. WTO Seattle Ministerial (1998)

Figure 6-1

Conclusions

There are several key facts to come out of the three early case studies from history – the Bomber Gap, the Missile Gap, and the Cuban Missile Crisis. The most important aspect that cannot be ignored is that the world was far more closed than it is today. The greatest foreign policy concern during the period coinciding with the Cold War was the strength and intentions of the Soviet Union, and yet open source news organizations had very limited access to investigate stories within the USSR, nor could they easily report from that part of the world. Moreover, the people trapped within the Soviet Empire also had very little freedom or ability to report out from within their country. In fact, much of the state apparatus of the Soviet Union was designed specifically to keep its own people from knowing what was happening within their own country.

To get policymakers vital and accurate information that they needed on topics such as Soviet nuclear forces required sources and methods that only the intelligence community was able to develop. In the Bomber Gap case the CIA was able to develop the U-2 reconnaissance aircraft, and in the Missile Gap case, the intelligence community

was able to create the CORONA reconnaissance satellite, as well as exploit the human intelligence coming from Soviet Colonel Oleg Penkovskiy. The analysis that the intelligence community was able to develop, based on information collected from these sources, gave the intelligence community a tremendous advantage over all other sources of information, a selection of which were presented in Chapter Three. These sources were still reporting inflated figures of Soviet military strength well after the intelligence community had concluded based on hard evidence that no such gaps existed. For the Cuban Missile Crisis, only the intelligence community was able to notify the President that Soviet missiles were being deployed in Cuba, largely because the Communist dictatorships were mostly able to clamp down on information being openly reported from their country.

The policymaking environment today is marked by the change that these most of these denied areas in the world are now far more open since the collapse of the Soviet Empire. Open source news agencies can now freely (or mostly freely) report from almost any corner of the globe, erasing much of the need to develop sophisticated intelligence collection systems and networks to learn simple aspects about foreign governments and international actors. The ability to comprehensively observe the world and report the most pressing issues to policymakers is no longer monopolized by the intelligence community.

This change is compounded by the revolution brought about by advances in computer and telecommunications technology. Not only can news organizations report from almost anywhere on the planet, but in most cases they can do so in real time as events are taking place. The Internet, satellite technology, and mobile

telecommunications make it easy and relatively inexpensive for any open source information organization to offer real time reporting on the most pressing foreign policy events of the day.

Finally, as described by the CSIS study in Chapter Four, events in foreign policy today take place in far shorter time cycles than ever before, creating a need for more information, more comprehensive information, and more timely, accurate, and reliable information. Policymakers in this environment have the option of relying mostly on intelligence analysis as they did traditionally, but it is unclear if the intelligence community has adapted to the new changes in the environment in which it operates. Consequently, policymakers today may have concluded that the intelligence community can no longer support them in the manner they require, and instead now turn to alternative sources of analysis when they need to be informed. The case studies focusing on the Indian nuclear test, the Serb-Kosovo crisis, and the WTO Ministerial in Seattle aim to address this question.

The primary conclusion that can be drawn from the data is that so far, information age, open-sources of analysis have not made intelligence irrelevant in supporting the policymaking process. On the contrary, the majority of the policymakers surveyed felt that intelligence sources of analysis were the most useful sources of information available to them. However, there are other factors to consider.

The usefulness of intelligence varied depending on the agency at which the policymaker worked. The best examples of this were the two cases of policymakers from the Office of the Secretary of Defense who ranked intelligence sources higher than any others. Working in the environment of the Pentagon may be a major factor, or it may be

that the nature of the foreign policy events that involve the Defense Department will be better suited to the strengths of the intelligence community. At the Department of the Treasury where policymakers have poor connectivity, they obviously found intelligence to be less useful.

This points towards the second biggest fact which was that the nature of the foreign policy event has a strong effect on how valuable policymakers find intelligence. Policymakers found intelligence most useful after the Indian nuclear test, and least useful prior to the WTO Ministerial in Seattle. As mentioned in Chapter Seven, policymakers remarked that analysis on economic and international financial topics was not a strength for the intelligence community. Less than for military or strategic nuclear forces issues, international economic and financial issues largely take place in the open and are based on openly occurring market events, and there might be little marginal value gained from trying to collect secrets on these issues and analyze them for the policy community.

However, there are highly technical and esoteric issues upon which the intelligence community is likely to maintain an advantage for the foreseeable future. The nature of the Indian and Pakistani nuclear weapons, the yields and particle analysis collected by intelligence sources is likely to remain a specialized field that the open source market for information will not supply, simply because there is not enough demand for that information, nor enough consumers willing to pay for it. Even if there would be sufficient demand, collecting such information often requires operating illegally inside a foreign nation's borders. While intelligence agencies typically will have no qualms about violating a sovereign nation's laws to collect information – that is what the intelligence business is all about, after all – non-governmental news agencies may be less

likely to take the same kind of risks.

Taking all these factors into account, the policymakers surveyed still found intelligence analysis to be useful in most circumstances, although other sources clearly compete – at times very successfully – for policymakers' attention. While the intelligence briefing most often was the most useful source overall, the telephone also scored highly in several cases – higher even the WWW. What was most surprising was the finding that even policymakers who found intelligence less useful than other sources also did not find the WWW or the Internet overwhelmingly useful. For the Internet the hypothesis of this dissertation was completely disproved since there is little or no evidence that policymakers are relying on the Internet instead of intelligence analysis. On the other hand, the television with CNN is a serious competitor with intelligence analysis for policymakers' time and there is no intelligence product that competes with CNN's timeliness. Intelink has the potential to supply policymakers with valuable intelligence supplements to CNN that could broaden a policymaker's base of knowledge as events take place, but with small exceptions, the policymakers surveyed did not use the network, nor know how to find information on it. This is a key finding because there are strong indications, including predictions by Burt and Olson in their CSIS report, that foreign policy will continue to take place in shorter and shorter time cycles. The intelligence community may not need to compete with CNN in these circumstances, but it should be concerned that policymakers act based only on information from CNN without intelligence community input based on classified sources and methods.

On the second tier of conclusions, it is obvious that the intelligence briefing is the most useful source of analysis as policymakers repeatedly reported they found most

useful the expertise of the briefer and the ability to interact and ask questions. The major shortfall of the briefing is that most intelligence briefers are analysts, and in a crisis when policymakers most need briefers, analysts are most busy collecting their own data to analyze. This is when the value of the telephone rises because it also has the virtue of one-on-one interactivity.

Ultimately, policymakers believe intelligence is still very useful in the information age, but they also are finding that information age sources of data and analysis are becoming extremely useful, especially in cases where they cannot get a personal intelligence briefing.

Recommendations

These conclusions lead to several recommendations for policymakers and the intelligence community. The most important goal is that policymakers get the best information in the time they have available. This does not necessarily mean that information must come from the intelligence community, although intelligence agencies do have some advantages stemming from their classified sources and methods, although they also have the disadvantage of having to operate secretly and control access to their analysis.

These recommendations can be broken down into measures that the intelligence community can take, as well as those that policymakers and their agencies can take.

Intelligence Community

A persistent problem in the intelligence community has been the inability of senior leaders to view their enterprise as a business with definable products and clients with particular demands. Satisfying these demands should always be the primary objective, and for this reason the intelligence community needs to make Intelink more

popular with policymakers. Timeliness for intelligence community written products is a major problem but one that could be greatly reduced if all written intelligence products were posted electronically on Intelink. There are no technological hurdles to overcome to make this happen since Intelink was designed to operate on the same protocols as the WWW. Any intelligence product produced on a personal computer and word processor such as MS Word or Wordperfect can be uploaded to Intelink in seconds. This requires storage on a central server, but computer hard drive prices are ridiculously cheap and hundreds of gigabytes of storage can be purchased for a few hundred dollars. But simply populating Intelink with the most current analysis is not enough.

The intelligence community needs to ensure that Intelink terminals are provided to senior policymakers in every agency, especially the State Department and equally important, the community needs to provide familiarization and training to policymakers so they know where to access the information they will need most. There will be some difficulty with policymakers who are only cleared to view information classified no higher than SECRET, but even seeing SECRET information would make them better off than they are today. Increasing broad access to classified information does increase the possibility of leaks and misuse of classified information, but this is a risk the community needs to take if wants to be relevant at all in the information age. Considering how poorly secrets are kept with the current state of affairs, it is hard to see how giving policymakers better access to Intelink could really have a large marginal effect.

The second recommendation for the intelligence community has to do with intelligence briefings. The major problem for the community is that while policymakers usually prefer a briefing to any other form of analysis, this style of disseminating analysis

is the least efficient from the community's perspective. The policymaker wants a one-to-one sharing of information but for the intelligence community which has limited resources, a one-to-many form of dissemination is much more efficient. When a crisis breaks, several policymakers noted that briefings can be hard to arrange because of the limited number of available experts and briefers. There is a solution for this problem, but one that requires a shared response both the policymaker and intelligence communities, and will be discussed at the end of the next section of this chapter.

Finally, the intelligence community has made many attempts in the past to improve its expertise on economic intelligence, but without much success according the data collected for this study. Interestingly enough, this may be an area where the community might discover it cannot offer any marginal improvement to policymakers above what they can find in the press, and through their own contacts. With the exception of collecting secrets on foreign nations' negotiating strategies and trade policies, this might be an area where the information revolution has truly made intelligence obsolete. The intelligence community leadership needs to decide if it is worth time and resources to attempt to retain expertise in this area.

Policy Community

The most glaring deficiency brought out in research of this dissertation was how poorly connected policymakers are the State Department. Without access to the Internet and television with CNN, State officials are at a huge disadvantage trying to make decisions in the face of great uncertainty. Rectifying this shortfall is relatively easy and does not require overcoming any technological hurdles – it only requires the will of Department senior leadership.

Along these lines, policy agencies need to recognize the value of intelligence as

one of many sources of analysis available to policymakers, and make resources available to facilitate policymakers accessing intelligence – such as providing resources for funding Intelink access. These agencies should also request orientation for all new policymakers to receive training, not only for Intelink, but for accessing the full spectrum of available intelligence. Intelligence will not always have the information policymakers' need, but the intelligence community has expertise that many policymakers applaud, and over fifty years experience developing links to disseminate analysis to the policy community. This is a resource that should be fully accessed. However, the resource that policymakers most prefer is still the intelligence briefing, and to ensure that policymakers can more effectively receive the briefings they need requires a joint effort by both the intelligence and policy communities.

For each of the three foreign events, policymakers surveyed consistently wanted a one-on-one source of analysis when they had a need for information. They most often found the intelligence briefing most useful, but would resort to the telephone or other source of information when a briefing was not available. This mostly equated to the needs policymakers have for the attributes of information. The perception of accuracy and timeliness was most often the primary attribute policymakers needed most, as was comprehensiveness, and the intelligence briefing best fulfills these two needs, but the weakness of the briefing is in its timeliness, which explains the high scores that the telephone and television often received. The ideal situation for policymakers would be to have the accuracy, reliability, and comprehensiveness of the briefing, combined with increased timeliness to meet policymakers' needs. One way to accomplish this would be to embed intelligence agency analysts in policymaking agencies. These analysts' purpose

would be to work closely with one or several policymakers, learn their needs and preferences, and spend their time analyzing intelligence and open source analysis, ready to brief at any time. These analysts of analysis, or *meta-analysts* for intelligence and open source, would be a new career path within the intelligence community.

The benefits of creating a meta-analyst position would be that policymakers would be far more able to request and get a briefing at a moment's notice when foreign policy events demand quick reaction and the policymaker has a need for information. Policy officials already have voiced their opinion that in several policy areas, when they need information they prefer the briefing to anything else. The cost of creating such a position would be in scarce resources of manpower and budgets. Such a measure would also risk violating a long-time intelligence community concern about losing its objectivity by getting too close to policymakers. These costs and this risk is real, but if the savings and avoidance of that risk means the community heads towards irrelevance in the information age, then these costs are well worth the attempt.

Appendix A. – Methodology

This dissertation examines the effects of the information revolution on policymakers' use of intelligence and other sources of information. Accomplishing this required a multi-step approach, with each step building upon the previous one to present a hypothesis, and then systematically test that hypothesis. With Chapter One serving as an introduction and summary, Chapter Two begins the process by presenting important background information that examines the traditional role of intelligence in supporting policymakers. The chapter reviews the literature of how decisionmakers need and use information to support national-level decisionmaking. The writings of current and former senior policymakers explain how policymakers need information to make decisions, as well as the role of the intelligence community in supporting the policymaking process. This is presened simply and straightforwardly, heavily citing acknowledged sources. The conclusion of the chapter is that policymakers need information to help ease the burden they feel in making high level foreign policy decisions, and will seek out the best information they can find to help.

To demonstrate how the conclusion found in Chapter Two works in practice, Chapter Three examines three historical cases. These case studies also serve as a baseline to compare how the advent of the information revolution may have changed how policymakers use information today. These three cases are presented as examples of the most pressing foreign policy events of their day.

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[253] *Social Research Methods: Qualitative And Quantitative Approaches,* Sage publications,Inc. Thousand Oaks, London, New Delhi, 2000 H. Russell Bernard, pg. 47.
[254] *The Art of Case Study* Research, Robert E. Stake, pg. 38.
[255] Ibid, pg. 41.

The cases were chosen because they represented a selection of the most pressing foreign issues of their era – the pre-information revolution era that coincided with the Cold War. Early Cold War cases were selected to establish a baseline reference for the post-WWII intelligence-policymaker relationship, as well as to highlight the difference that modern information technology is having on how the intelligence community can respond to the needs of policymakers. A number of cases were considered before these were selected. A long list was drawn up and discussed with the dissertation committee, and the final three were selected based on the following criteria.

- Key relevance to U.S. national security.
- Clear evidence of policymakers having a need for information to make decisions.
- Ready availability of open source documentation and declassified intelligence on the event to facilitate showing what intelligence analysis policymakers had access to.

Each case was researched using primary source documents from the intelligence community – recently declassified intelligence reports and National Intelligence Estimates – as well as primary and secondary historical sources, and original press accounts from the period of each case. The objective of Chapter Three is to conduct an in-depth examination of how policymakers traditionally have used information, and how that shaped their relationship to the intelligence community. The goal of Chapter Four is to explain what might be changing that relationship.

Chapter Four opens citing authoritative sources to describe the nature of the information revolution and the changes it might be having on the intelligence community and policymakers alike. Of the intelligence community, this chapter examines the intelligence community's information age tool for dissemination – a classified network named Intelink. Researching Intelink involved interviews with numerous primary

sources – medium and high-level users of Intelink in both the intelligence and policy communities -- as well as senior government officials involved with its development, implementation, and day-to-day operations. Where there were holes in the data from these sources, the Intelink book *Top Secret Intranet*, authored by one of the system's designers, filled in the gaps.

The final section of this chapter examines the infrastructures of policymaking organizations, while also looking at the infrastructures of the organizations that deliver intelligence analysis to policymakers. The aim of this examination is to understand how policy agencies are enabling policymakers to access all forms of information, including intelligence and open source analysis. This part of Chapter Four was compiled from primary source writings of noted experts in the field, as well as field interviews with policymakers from selected agencies.

Chapter Five describes the data collection and analysis used to test the main hypothesis. This is the key section of this dissertation, and constitutes the major work and section of the overall methodology to be discussed. The initial plan of this research project was evaluate the role of the information revolution on policymakers' use of intelligence analysis by conducting an experiment to learn how modern policymakers relied on intelligence analysis in major foreign events where the policy officials needed to be informed. The experiment would test if policymakers primarily relied on intelligence analysis to become informed, or used some combination of intelligence and other sources, or relied solely on other sources, be they information age sources or traditional ones.

The question remained of how to test policymakers' reliance on information

sources. The solution chosen was to get policymakers to rank their preferences for information sources to learn which they found most useful, and which less so. Ranking just the sources of information did not promise to yield enough insight into the behavior of policy officials, so it was decided to get policymakers to rank not only the sources of information they found most useful, but the attributes of information they needed most.

This decision was based on articles and other literature describing of information markets and how decisionmakers in business use information (especially Hal Varian's and Carl Shapiro's work *Information Rules).* What emerged from this research is that the two most important issues relating to a decisionmaker's use of information centered on how valuable the policymaker wanted some attribute of information (be it timeliness, accuracy, ease of use, et. al), and how these attributes affected how useful he or she would find the information source. A list of attributes was compiled from this same literature are the terms defined and explained in Chapter Five. The information sources to be evaluated are a fairly comprehensive list of open source information, compiled from research into what policymakers had access to in their places of work, and intelligence analysis products compiled from the intelligence community's own handbook on analysis products.

The open question of how to get policymakers to rank their preferences for the attributes and sources of information was solved with the evaluation of the operations research analysis tool named The Analytic Hierarchy Process, a well-known analytic device used in several RAND Graduate School dissertations and RAND published studies.

One obvious problem with asking policymakers to rank the attributes and sources

of information is getting them to accurately weigh the value of the different attributes and sources of information against each other. Asking any individual at one sitting to rank ten attributes of information, or thirteen sources of information would not yield consistent, nor reliable results. Fortunately, the Analytic Hierarchy Process (AHP) allows individuals to make accurate and consistent rankings of multiple choices. The main technique of AHP asks experts to make pairwise comparisons of all possible combinations of items to be ranked to elicit the relative preferences of the evaluators.[256]

Using AHP requires a multi-step process where the first step is to identify and summarize the different items to be ranked. This has already been explained as the attributes and sources of information. The second step requires selected experts – in this case senior policymakers who regularly need and use intelligence and other forms of information – to fill out structured questionnaires on the relative importance of the different attributes and sources of information through pairwise comparisons. The evaluator chooses one item against another on a weighted scale in a questionnaire, such as in the example figure below, until all possible combinations have been evaluated.

Sample AHP Questionairre								
	Far More Important 7	Strongly More Important 5	Slightly More Important 3	Equal value 1	Slightly More Important 3	Strongly More Important 5	Far More Important 7	
				VS.				
Choice A	☐	☐	☐	☐	☐	☐	☐	Choice B
Choice A	☐	☐	☐	☐	☐	☐	☐	Choice C
Choice A	☐	☐	☐	☐	☐	☐	☐	Choice D
Choice A	☐	☐	☐	☐	☐	☐	☐	Choice E
Choice B	☐	☐	☐	☐	☐	☐	☐	Choice C
Choice B	☐	☐	☐	☐	☐	☐	☐	Choice D
Choice B	☐	☐	☐	☐	☐	☐	☐	Choice E
Choice C	☐	☐	☐	☐	☐	☐	☐	Choice D
Choice C	☐	☐	☐	☐	☐	☐	☐	Choice E
Choice D	☐	☐	☐	☐	☐	☐	☐	Choice E

Figure A-1

[256] Thomas L. Saaty, *The Analytic Heirarchy Process*, McGraw Hill, New York, 1980.

The preferences are weighted where the score of "1" shows equal preference, a score of "3" shows slight preference, a score of "5" shows strong preference, and a score of "7" shows very strong preference. The results are placed into a matrix where the elements of each column are divided by the sum of that column (i.e., normalized), and then added in rows and divided by the number of elements in the row. This is known as averaging over normalized columns. This process not only reveals the policymaker's ranking of each preference, but also reveals the relative strength of each preference. The scores are presented as percentages of total preference where the total sum of the scores for each ranking equals 1.0.

A consistency measure exists as an arbitrary metric of how reliably a policymaker is in transitively ranking one preference over another. Saaty provides the tools to derive this index and it is considered ideal at .10 or under, but this is more of a measure of inconsistency because the perfectly consistent set of responses will drive the index to zero.[257] Therefore the real index of consistency should be measured as one-minus-Saaty's index, where 1.0 equals a perfectly consistent set of responses, and this is the figure that will be reported here. Saaty prescribes that a consistency index (CI) of .9 ought to be the threshold sought for good results, but a consistency index of less than .9 does not necessarily invalidate the data. First of all, Saaty concedes that the .9 threshold is a completely arbitrary figure. Even in the examples Saaty invents in his book describing the process, his results do not produce a .9 consistency index. The lack of a reliable, quantitative measure of a respondent's consistency is a weakness in this process, but one that can be effectively addressed.

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[257] Saaty, pg. 17 - 21.

Every policymaker for this study was interviewed in addition to being given a quantitative survey to complete. In areas where a consistency index falls below .9, additional responses from the policymaker are provided to give a fuller and more complete evaluation of the official's preferences. While there were no cases where a policymaker's CI fell below.8, in those cases where the CI is below .9, additional responses from the respondent will be included to bolster the survey data and demonstrate that the survey data does indeed capture the policymaker's preferences.

The next question to be answered was the context in which policymakers would use AHP to rank their preferences for information sources and attributes. The dissertation committee decided the most efficient way was to query policymakers about their preferences in relation to specific foreign policy cases that were of major significance to U.S. security.

Three modern foreign policy cases were selected through a thorough process. Open source press, primarily the *New York Times*, the *Washington Post*, and *The Economist*, were researched to compile a list of high profile, recent foreign policy events that were important to the economic and military security of the country. The time frame for these foreign policy cases went back to January of 1997 – the start of the current term of the present Administration at the time. A long list was presented individually to a large number of foreign policy experts at RAND, including the dissertation committee who contributed ways of assessing and analyzing the cases. From these discussions emerged an initial consensus on a pared down list that cut those cases that were not of primary importance to U.S. interest. The remaining list of key foreign policy cases were examined for diversity, meaning they separated into groups that covered a broad base of

U.S. interests. Three were selected. The goal of choosing cases that were distinct was to cover the widest possible spectrum of situations where policymakers today use information. In the present age U.S. national security covers a wider base of issues than it did traditionally, and the case selection for this dissertation was meant to recognize that. Three foreign policy cases were ultimately chosen as the number that would allow diversity in selection, but would not become too large an effort to make the study unmanageable. To give depth to the selection of the three foreign policy cases, it was decided that each policymaker would be queried about their preferences at two distinct time intervals per case, which give the added advantage of allowing the researcher to judge how changing events within a foreign policy event could change a policymakers' need for information.

Policymakers were interviewed about their access to various sources of information and then given an AHP questionnaire to complete and return. Of the 24 individual policymakers who participated, a total of eight completed the quantitative AHP survey as described earlier, and the results detail their individual preferences in each foreign policy event for the attributes of information they found most important, and the sources they found most useful at each time interval. Each set of responses is analyzed for the most notable findings.

There is the question of how the policymakers were selected and what criteria was used to justify a sample size of 24 overall interviews, and eight who responded to the quantitative survey. Policymakers involved with these three foreign policy events were selected using the accepted process of snowball sampling, which relies on establishing contact with a first respondent who then refers the investigator to other suitable

respondents. These individuals supplied data that expressed their preferences for information sources during the foreign policy event in which they were involved. The analysis of this data, using the Analytic Hierarchy Process, revealed the policymakers' preference for intelligence and non-intelligence sources of information.

The goal was to learn how useful policymakers find traditional and information age sources of intelligence and non-intelligence analysis. The overall method to test this was to conduct a qualitative study using a quantitative tool.

This dissertation examined each policymaker as an individual case to be studied in some depth to learn about his or her preferences for information sources. The qualitative part of this study was to conduct a collective case study that involved using a collection of instrumental case studies to learn about the effects of a particular foreign policy event on how individual policymakers use intelligence in the information age, using important coordination between the individual studies. As opposed to an instrumental case study, general case studies are conducted to learn about a case for its own sake. A case study conducted to learn something other than understanding the particular case itself is an *instrumental case study*. For this study, the goal of this instrumental case study was not to learn about the policymaker *per se,* but to learn about a number of policymakers' preferences to infer effects of the information revolution on policymakers' use of intelligence.

As mentioned above, each individual policymaker represented a case to be studied. The goal was to learn if policymakers today preferred non-intelligence sources to intelligence sources, and information age sources to traditional sources. Following the guidelines prescribed in Robert E. Stake's *The Art Of Case Study Research*, the first step

in the case study process was to construct a survey with between twenty and thirty prospective questions. These were substantive questions generated from interviews with RAND staff, committee members, and former policymakers who had held senior positions in prior Administrations. The data collected from these questions provided context and depth to the responses from the quantitative survey that will be described later in this section. This was the qualitative data collected from policymakers.

The second set of data collected from policymaker was the quantitative component of the study and involved the use of AHP. Over twenty-four policymakers in all were interviewed, and eight responded to the AHP survey. This is an acceptable number of cases for a collective case study. This study is not a statistical survey of policymakers based on a random selection to determine how all policymakers in general behave. Such a study would be difficult to comprehend. To have a statistically representative sample, there must be a definable population from which to randomly draw subjects. There is high turnover in the policymaker ranks making it almost impossible to determine the boundaries of any definable population. Furthermore, the study plan demands policymakers who were specifically involved with one of three real world foreign policy events – the 1998 Indian nuclear test, the 1999 Serbian crackdown on Kosovo, and the 1998 WTO ministerial in Seattle, Washington. It would be impractical to try and identify every policymaker within the U.S. government who had any responsibility or authority for making foreign policy in those events, just to define a population, and then try to randomly select respondents from that group. With it being unfeasible to define the boundaries of the population, defining the population itself became unworkable. For that reason a case study approach was far more practical and

appropriate.

There is a valid question about whether or not this method was reliable from a social science perspective. Reliability refers to whether or not you get the same answer by using instrument to measure something more than once. Like all other kinds of instruments, some questions are more reliable for retrieving information than others. Several steps were taken to ensure that the results generated by the interview process were reliable. The first step was the use of the AHP tool, which, in asking the respondent to make an almost exhaustive number of answers, effectively gets to the heart of the subject's core beliefs and preferences. Furthermore, the consistency index indicates on a relative scale to what extent the subject is consistent in ranking his or her preferences via the selection of pairwise comparisons. Since the tool is successful at indicating whether or not the subject's answers are consistent and represent his or her true beliefs, the experiment should be easily repeatable and therefore valid. In some cases where the consistency index was relatively low, the quantitative data was supplemented with additional substantive interviews to gather more data from the subject to see if the data collected in the AHP survey was salvageable.

There is a question of validity of these tools and methods. H. Russell Bernard refers to the accuracy and trustworthiness of instruments, data, and findings in *Social Research Methods: Qualitative And Quantitative Approaches*. Bernard states that "the validity of data is tied to the validity of instruments. If questions asking people to recall their behavior are not valid instruments for tapping into information and past behavior, then the data retrieved by those instruments are not valid. Assuming, however, that the instruments and data are valid, we can ask whether the findings and conclusions derived

from the data are valid.[258] In this dissertation, the questions were vetted through professional RAND researchers, and the AHP tool used to coordinate and shape these questions is a well-known and respected tool of operations research specifically, and social science in general. AHP has been used in numerous RAND studies and several RAND Graduate School dissertations.

There is a valid question of whether or not the analysis of the AHP data is valid or subjective. Robert E. Stake in *The Art of Case Study Research* would respond to this question by asserting that "All research depends on interpretation.... Standard qualitative designs call for the persons most responsible to make interpretations ... [make] observations, [exercise] subjective judgment, analyzing and synthesizing, all the while realizing their own consciousness."

Bernard would contribute that

> "qualitative study has everything wrong with it that its detractors claim. Qualitative inquiry is subjective. New puzzles are produced more frequently than solutions to old ones.... That the intent of qualitative researchers to promote a subjective research paradigm is given. Subjectivity is ... an essential element of understanding. Qualitative researchers have respectable concern for validation of observations, they have routines for "triangulation" that approximate in purpose those in the quantitative fields, but they do not have widely agreed-upon protocols Bernard pg. 56)."

Many texts of social science methodology echo the sentiment that since we have to make concepts in order to study them, there is no direct way to evaluate the validity of an instrument for measuring a concept. Ultimately, we are left to decide, on the basis of our best judgment, whether an instrument is valid or not. In the case of this dissertation,

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[258] *Social Research Methods: Qualitative And Quantitative Approaches,* Sage publications,Inc. Thousand Oaks, London, New Delhi, 2000 H. Russell Bernard, pg. 47.

the concept for data collection and analysis was discussed with many in the RAND community, and many in the intelligence and policy communities. To be sure, there were many instances of constructive guidance offered, and a few instances of criticism of the method as a whole. But by and large, the method used in this study passed the judgment of the strong majority of those who viewed it.